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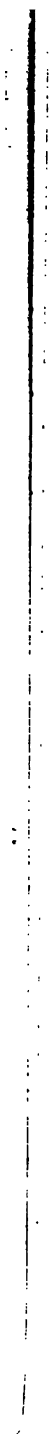


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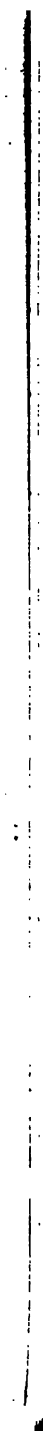
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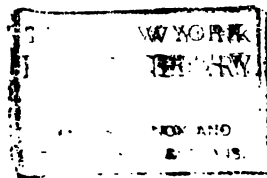








**1903.**



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*(Being Supplement to Vol. XXIV. of Transactions.)*

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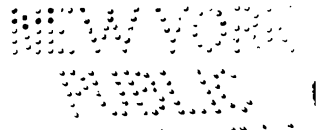
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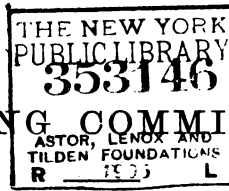
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The Institute is not responsible for the facts and opinions advanced  
in the Addresses, Papers, and Articles published in the Journal.

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Volume XXIV.—Part I.]



SUPPLEMENT TO THE  
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ANNUAL REPORT OF THE COUNCIL  
FOR THE YEAR 1902.

*Read at the Ordinary General Meeting, March 25th, 1903.*

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INTRODUCTION.

The progress of the work of the Institute during the year 1902 has shown a more than usually rapid increase in all branches. The roll of Members and Associates has increased from two thousand five hundred to two thousand seven hundred. The Annual Income of the Institute from all sources has also very largely increased. Sessional Meetings in the provinces have been arranged for, and Examinations have been established at a new centre in Australia.

ADDRESS TO THE THRONE.

A loyal and dutiful address was presented to His Majesty the King on the occasion of his Coronation, expressing the thankfulness felt on His Majesty's rapid recovery from a most perilous illness,

and referring to his long and active personal interest in Sanitary matters, particularly in hospitals. The address concluded with the earnest hope that His Majesty and His Majesty's Gracious Consort, our beloved Queen Alexandra, might be long spared, beneficently to reign over a happy and contented people, united in an ever-strengthening bond of loyalty to His Throne and person.

### ASSOCIATED WORK.

Protection of water supplies. A joint deputation—representing the County Councils Association, The Sanitary Institute, the British Association of Waterworks Engineers, and the Underground Water Preservation Association—waited upon the President of the Local Government Board on October 29th, to urge the appointment of a Royal Commission to enquire into the question of the protection of sources of water supply in England and Wales, and into the existing state of the law on the subject. The Sanitary Institute was represented by Mr. A. Wynter Blyth (Chairman of Council), Major R. H. Firth, R.A.M.C., Mr. William Whitaker, F.R.S., F.G.S., Mr. J. E. Worth, M.Inst.C.E., and Mr. E. White Wallis (Secretary). Mr. Whitaker urged on behalf of the Sanitary Institute, that if such an enquiry were held it should be a thorough one, that it should take up all sides of the question, and that it should not be limited to public supplies, it should also consider private supplies.

### SANITARY LEGISLATION.

The Institute had under consideration the following Bills introduced into Parliament during the year. The action taken by the Council and the fate of the Bill is noted in each case:—

*Public Health Bill.* Brought in by Sir Francis Sharp Powell, Bart.

A Bill to amend the Law relating to the qualification and tenure of office of medical officers of health, inspectors of nuisances, and sanitary inspectors.

Decided to petition in favour of this Bill.

The attention of the promoters of this Bill was drawn to certain clauses, where it was thought alterations were desirable. The Bill has since been dropped.

*London Water Bill.* Brought in by Mr. Long, Mr. Secretary Ritchie, Mr. Attorney-General, and Mr. Grant Lawson.

A Bill for establishing a Water Board to manage the supply of

water within London and certain adjoining districts, for transferring to the Water Board the undertakings of the Metropolitan Water Companies, and for other purposes connected therewith.

No action taken, as the Bill did not appear to contain any sanitary provisions.

The Bill was passed and received the Royal assent.

*Water (Underground Supplies) Bill.* Brought in by Mr. Abel Smith, Mr. Halsey, Mr. Heywood Johnstone, Mr. Ashton, Mr. Hudson, and Mr. Joseph A. Pease.

A Bill to limit and define the rights of persons taking water from underground sources for public supply.

A petition was presented in favour of the Bill, as it was thought undesirable that Public Companies should acquire water rights to the injury of private individuals without going to Parliament.

Second reading dropped.

*Vaccination Bill.* Brought in by Mr. Broadhurst, Mr. Thomas Bayley, Sir John Rolleston, Mr. Channing, and Mr. Corrie Grant.

A Bill to amend the Vaccination Acts.

Decided to petition against this Bill.

Second reading dropped.

*Ice-cream Shops (Scotland) Bill.* Brought in by Mr. Orr-Ewing, Mr. Cameron Corbett, Mr. John Dewar, and Mr. Law.

A Bill to regulate the opening and closing of shops for the sale of ice-cream, refreshments for consumption on the premises, and tobacco, in Scotland.

No action taken.

The Bill was withdrawn.

*Plumbers' Registration Bill.* Introduced in the House of Lords by Lord Glenesk.

A Bill intituled an Act for the Registration of Plumbers. This is an enabling Bill, throwing upon the Local Government Board the responsibility for promoting a scheme to carry out the Act.

Decided to petition against this Bill.

Second reading dropped.

*F. London County Council (General Powers) Bill.*

A Bill promoted by the London County Council to confer further powers upon the Council with respect to milk supply, the sale of ice-creams, common lodging-houses, and other sanitary matters; and for other purposes.

Several amendments which appear desirable from a public health point of view were submitted to the London County Council by the Institute.

The Bill received the Royal assent.

### SESSIONAL MEETINGS.

Sessional Meetings for the discussion of subjects of Sanitary interest were held in February, March, April and December, and the following subjects were brought forward:—

“The Prevention of Small-pox,” by A. WINTER BLYTH, M.R.C.S., F.I.C., F.C.S.; Sir James Crichton-Browne, M.D., F.R.C.P., F.R.S., in the chair.

“The Collection and Disposal of Refuse in Large Towns,” by H. PERCY BOULNOIS, M.INST.C.E.; H. D. Searles-Wood, F.R.I.B.A., in the chair.

“The Prevention of Malaria,” by PATRICK MANSON, C.M.G., M.D., LL.D., F.R.S.; R. Farquharson, M.D., M.P., in the chair.

“Drain Testing,” by LOUIS C. PARKES, M.D., D.P.H., J. OSBORNE SMITH, F.R.I.B.A., and W. C. TYNDALE, M.INST.C.E.; Prof. W. H. Corfield, M.A., M.D., F.R.C.P., in the chair.

The attendance at these meetings showed an increase on last year, the average being 120.

The papers read and discussions upon them are printed in the Journal, Vols. XXIII. and XXIV.

The Council will be glad to receive from members any proposals as to appropriate subjects for discussion at future meetings.

### LECTURES AND DEMONSTRATIONS ON SANITARY SCIENCE.

At the Thirty-third Course of Training held in February, March, and April, 55 Students entered their names, and at the Thirty-fourth Course in October and November, 40 Students were enrolled.

The Objects and Appliances in the Parkes Museum, where the

Lectures are given, are used for the purpose of practically illustrating the Lectures; and other objects, such as Carcases and Organs of Animals, are obtained for demonstration.

A complete list of the Lectures has been given in the Supplement to the Journal.

Technical Exhibitions are awarded by the Technical Education Board of the London County Council to the annual value of five pounds, which may, with the approval of the Board, be applied to paying the expenses of Students in attending these Lectures.

#### INSPECTIONS AND DEMONSTRATIONS.

In addition to the 32 Lectures and the Demonstrations given in the Museum during each Course, arrangements were made for Students to visit a number of public works illustrative of sanitary practice and administration, in order that they might have the opportunity of observing and noting the difficulties that have to be met in the practical application of Sanitary principles.

During the period over which each Course of Lectures has extended the Students have had the free use of the Library and Museum at all times when they were open, and arrangements were made for the Students to inspect the Museum with the assistance of the Curator.

The Council desire to record their sincere thanks to the Lecturers for the great benefits they have conferred upon the Students, and for the assistance they have given to the diffusion of Sanitary knowledge by the preparation and delivery of these Lectures, and also to those gentlemen who have taken so much trouble to make the various inspections and demonstrations instructive to the Students.

The Institute is also indebted to the London County Council, Metropolitan Borough Councils and District Councils, and others who are so kindly assisting them with regard to the visits, and in bringing the Lectures under the notice of their officers.

#### PROVINCIAL LECTURES.

The Course of 6 Lectures and Demonstrations to Sanitary Officers was held in Leeds, Bradford, and Huddersfield, under the auspices of a Joint Committee formed by The Sanitary Institute, the Technical Instruction Committee of the West Riding County Council, the County Boroughs of Leeds, Bradford, Huddersfield and Halifax, and The Yorkshire College. A large number of Inspectors and others attended the Lectures, and a number of them entered for the Examination arranged by the Institute at Leeds, at the conclusion of the



Course. This Course was largely attended, and is another evidence of the interest taken in Sanitary matters in the West Riding of Yorkshire.

The Lectures and Demonstrations were held on Saturday afternoons, commencing March 15th.

### PRACTICAL TRAINING FOR MEAT INSPECTORS.

In addition to the Course of general Lectures for Sanitary Officers, special Courses were established during the year for candidates preparing for the Examination for Inspectors of Meat and other Foods, conducted by The Sanitary Institute.

Each Course consisted of systematic practical training in the inspection of meat at a Cattle Market, including demonstration on live cattle and sheep, slaughtering and dressing of animals, names and situations of the organs, diseases of animals, methods of stalling, arrangement of markets and byres, etc.

Demonstrations were also arranged at a knackers' yard, where instruction regarding the flesh and organs of the horse was given.

One Course was held in the Spring and another in the Autumn, and each continued for two months. At the first Course there were 20 students, and at the second 12 students.

### EXAMINATIONS.

During the year Examinations were held at the following places:

#### IN PRACTICAL SANITARY SCIENCE.

Belfast	Leeds
Birmingham	Liverpool
Cardiff	London (2)
Edinburgh	Manchester

58 Candidates presented themselves, to 25 of whom Certificates were granted.

#### FOR INSPECTORS OF NUISANCES UNDER THE PUBLIC HEALTH ACT, 1875.

Belfast	Liverpool
Birmingham	London (2)
Cardiff	Manchester
Edinburgh	Newcastle-upon-Tyne
Leeds	Plymouth
Leicester	

At these Examinations 897 Candidates presented themselves, and

447 were certified competent, as regards their Sanitary knowledge, to discharge the duties of an Inspector of Nuisances under the Public Health Act, 1875.

The Sanitary Inspectors Examination Board (formed by The Sanitary Institute and other bodies), for holding Examinations under the Public Health (London) Act, 1891, held two Examinations during the year. There were 56 Certificates granted.

#### FOR INSPECTORS OF MEAT AND OTHER FOODS.

During the year Examinations were held in London (2 Examinations), Liverpool, and Manchester. 66 Candidates presented themselves, to 47 of whom Certificates were granted.

#### IN PRACTICAL HYGIENE FOR SCHOOL TEACHERS.

An Examination was held in Leeds. 11 Candidates presented themselves, to 7 of whom Certificates were granted.

#### COLONIAL EXAMINATIONS.

During the year Examinations were held at Sydney and Brisbane; 3 Candidates presented themselves for examination in Practical Sanitary Science, 2 Certificates being granted; and 34 as Inspectors of Nuisances, 24 Certificates being granted.

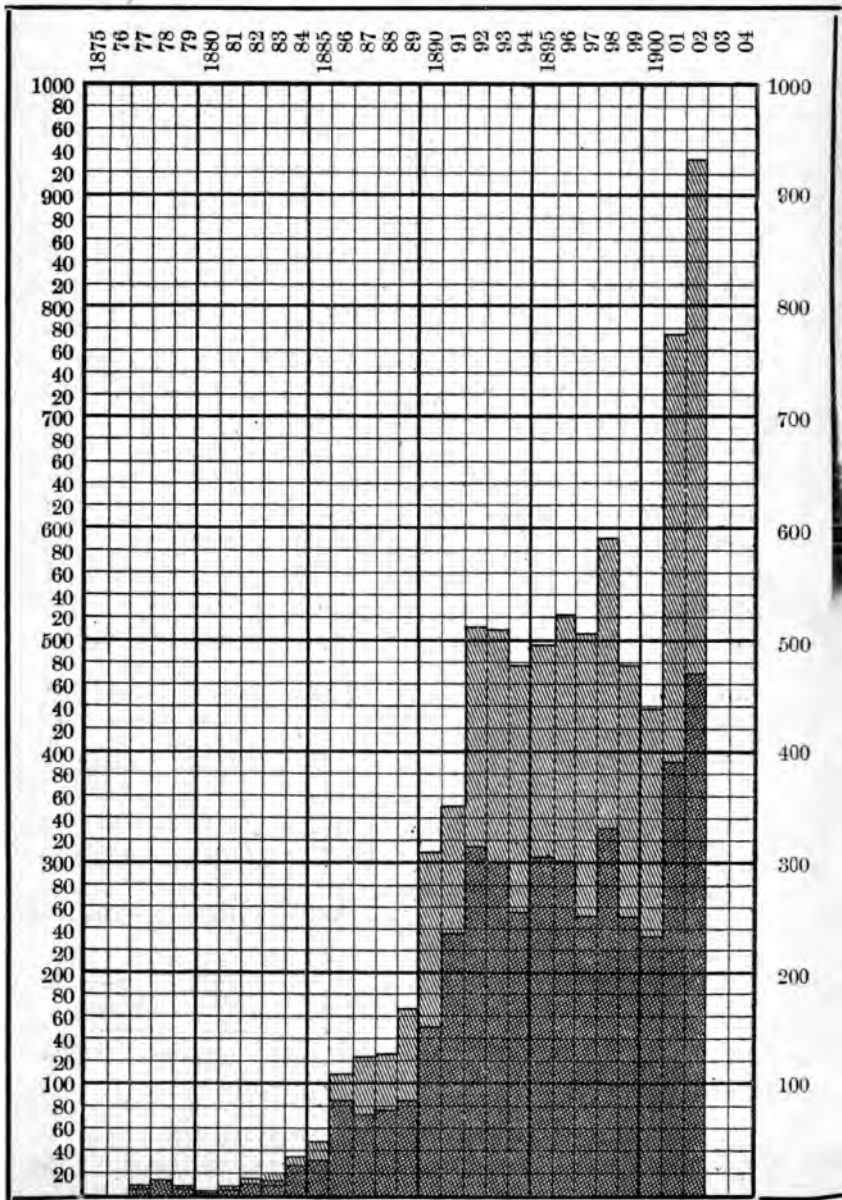
Examinations were established by the Institute in 1877, and the following figures show the total number of Examinations held, and the number of Candidates :—

	Examinations.	Candidates Entered.	Candidates Certificated.
For Local Surveyors .....	35	291	142
Practical Sanitary Science....	65	401	188
Inspectors of Nuisances ....	157	7,545	4186
Inspectors of Meat and Other Foods .....	13	152	95
Practical Hygiene for School Teachers .....	4	34	25
	<u>274</u>	<u>8,423</u>	<u>4,636</u>

A Diagram relating to the Examinations for Inspectors of Nuisances is given on the following page.

#### EXAMINATION FOR INSPECTOR OF NUISANCES.

The total number of Candidates is shown by the height of the column shaded, and the number who have obtained Certificates by the lighter portion.



## CONGRESS AND EXHIBITION AT MANCHESTER.

The Nineteenth Congress and Exhibition of the Institute was held at Manchester from September 9th to 13th, 1902.

Very suitable accommodation was provided for the meetings of the Congress in the Owens College and at the Municipal School of Technology, and excellent arrangements were made for the reception and convenience of members.

Delegates were appointed by about 400 Sanitary Authorities and Learned Societies.

The numbers attending the Congress were as follows:—Delegates, 759; Members and Associates of the Institute, 750; Associates of the Congress, and other Subscribers, 650; Meeting of Childhood Society, 100; making a total of 2,259.

The first General Meeting was held on September 9th. The Right Hon. the Earl Egerton of Tatton was installed as President of the Congress, and delivered his Inaugural Address.

The business of the Congress was divided into three Sections and eight special Conferences:—Section I. Sanitary Science and Preventive Medicine; Section II. Engineering and Architecture; Section III. Chemistry, Physics, and Biology. Conferences: of Municipal Representatives; of Port Sanitary Authorities; of Medical Officers of Health; of Engineers and Surveyors to County and other Sanitary Authorities; of Veterinary Inspectors; of Sanitary Inspectors; of Ladies on Domestic Hygiene; on Education. Many subjects of special interest were brought forward and discussed—the papers, together with the discussions, appear in Vol. XXIII. of the Journal.

Interesting visits were made to Tatton Park, Knutsford; Peel Park, Salford; The United Alkali Co.'s Works, Widnes; Chatsworth and Haddon Hall; Engineering Works of Lancashire and Yorkshire Railway, Horwich; Fireclay Works of Messrs. Mason, Horwich; The Water Supply Works of the Liverpool Corporation, Rivington; the Municipal Works at Buxton, the Natural and Hot Mineral Baths at Buxton, the Buxton Gardens; Port Sunlight, Cheshire; the Waterworks Undertaking of the Manchester Corporation at Thirlmere.

Circular tours were also made to the Municipal undertakings of the Manchester and Salford Corporations. Several of these visits were of great value to members, and especially to officers and members of Local Authorities, and officials appointed as Delegates to the Congress.

The Health Exhibition was held at the St. James's Hall and was open seventeen days. It was attended by 29,164 visitors. A list of the Exhibits to which medals were awarded is given in the Supplement to the Journal, Vol. XXIII. Part III., 1902, and also a list of certain Exhibits which required special tests in London or elsewhere before their merits could be decided upon by the Judges.

The illustrated list of Exhibits to which medals have been made has been regularly published by the Institute since 1892. The list now contains illustrations, descriptions, and prices of a large number of sanitary appliances and articles of domestic use and economy, and is, the Council believe, of much use for reference.

### LIBRARY.

Volumes and Pamphlets numbering 356 have been presented to the Library. Lists of these are published in the Supplement to the Journal.

Altogether about 500 references were made to the shelves by readers during the year.

For the convenience of Members, Associates, and Students who wish to borrow books for home reading, special arrangements have been made for the loan to them, at a small fee, of books from Lewis's Medical and Scientific Library, which contains a large number of recent text-books and standard works on Sanitation.

### JOURNAL.

The records of the Transactions of the Institute, published in the Journal, are steadily increasing, and last year the Journal numbered 900 pages, besides 190 pages of additional matter published in the Supplement.

The circulation has increased, and more than 4,000 copies were issued of Part IV. of the volume for last year.

### CORONATION DINNER.

His Grace the Duke of Northumberland, K.G., Vice-President, presided at the Coronation Dinner of the Institute, held in the Venetian Chamber of the Midland Grand Hotel on June 2nd.

### BUILDING FUND.

The Building Fund, including donations promised, now amounts to £8,120 5s. 6d.

## PARKES MUSEUM.

The Museum, besides being a most important adjunct to the teaching work of the Institute, forms the basis of a large proportion of the teaching in practical Hygiene that is given in London.

The visitors to the Museum during the year, including classes from Medical Colleges, Polytechnics, Science Centres, London Board Schools, &c., have considerably increased, as will be seen by the following table and the estimated number of ordinary visitors. The table shows comparative figures for the past eleven years :—

*Table showing the number of Classes and Students visiting the Museum.*

Date.	Institutions from which Classes attended.		Classes.		Students.
1892	..	13	..	68	854
1893	..	21	..	87	1043
1894	..	28	..	48	865
1895	..	50	..	93	1695
1896	..	49	..	82	1435
1897	..	53	..	138	1674
1898	..	47	..	97	1958
1899	..	40	..	97	2154
1900	..	51	..	136	2763
1901	..	50	..	154	3514
1902	..	44	..	154	3073

The estimate of ordinary visitors for the year is 8,000.

Thus it will be seen that 11,073 visits are recorded, in addition to the meetings and lectures arranged by the Institute, 3,000 of these being made by interested Students visiting the Museum by appointment for definite instruction; in many of these visits the Students were conducted by the Curator.

The following Institutions were represented, some of which sent Students on two or more dates :—

Battersea Polytechnic.	Crouch End School.
Beckenham Technical Institute.	Croydon Polytechnic.
Blackheath School.	Cussocks Technical Institute.
Borough Polytechnic.	Goldsmiths' Institute.
Bow and Bromley Technical Institute.	Hackford Road Science Centre.
Brighton Trinity College.	King's College.
Brockley Science School.	Kingston Science Centre (Surrey County Council).
Burghley Road School.	Lavender Hill School.
Charing Cross Hospital.	London Hospital (Public Health Students).
Clyde Street Science Centre.	

N. T. School of Cookery.	St. Marylebone Teachers' Centre.
National Health Society.	St. Thomas's Hospital.
Northern Polytechnic.	South-Western Polytechnic.
North Hackney High School.	Stamford Hill School.
Norwood School of Hygiene.	Stanhope School.
Norwood Technical Institute.	Summer Avenue School.
Penge Technical Institute.	Thomas St. School.
Regent Street Polytechnic.	Thornton Heath Polytechnic.
School Board Training Institute.	Tottenham Polytechnic.
Sesame House.	University College (Public Health Students).
Skinners' Company's School (Girls).	Wandsworth Technical Institute.
St. George's Hospital (Public Health Students).	West Ham Technical Institute.
St. Katherine's Coll., Tottenham.	William Street Science Centre.

Twenty additions of new exhibits have been made to the Museum during the year, particulars of which are given each quarter in the Supplement to the Journal.

The collection of lantern slides available to Members and Associates for lecture purposes now contains some six hundred valuable illustrations, and has been largely used by the Members of the Institute.

### FINANCE.

The Statement of Accounts for the year shows an increase in the receipts, and the expansion of the Institute has necessarily involved an increase also in the expenditure; the result of the year's working shows a considerable balance of income over expenditure.

### COURSE OF TRAINING IN APPLIED HYGIENE FOR SCHOOL TEACHERS.

A Course was arranged, in conjunction with Bedford College for Women, and it occupied three terms of the year, and consisted of Lectures and practical Demonstrations on the following subjects:—

- Physiology and the allied Sciences,
- Construction and practical Sanitation of Schools,
- Hygiene in School life and in Educational methods,
- Infectious Diseases and Disinfection.

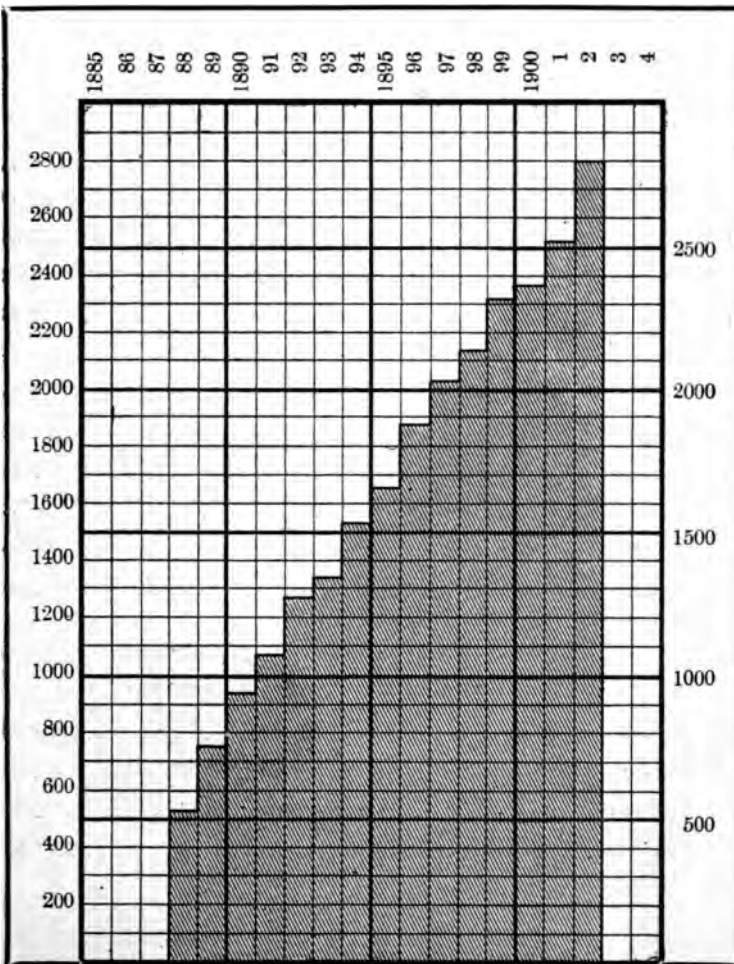
The Lectures were given partly at the Institute and partly at Bedford College, and were attended by 18 Students.

### EPITOME OF REGISTERS OF MEMBERS AND ASSOCIATES.

The comparison of the roll of the Institute with the preceding year shows a steady increase in the number of Members and Associates.

	Hon. Fellows.	Fellows.	Members.	Associates.	Total
Dec. 31st, 1901 . . . .	38	170	908	1,392	2,508
Dec. 31st, 1902 . . . .	37	171	952	1,565	2,725

*Diagram showing the Yearly Increase in the Roll of the Institute.*





## OBITUARY.

It is with regret that the Council have to report the death of Dr. FREDERICK TEMPLE, Archbishop of Canterbury, *Vice-President*; Dr. RUDOLPH VIRCHOW, *Honorary Fellow*; Sir FREDERICK ABEL, Sir W. GUYER HUNTER, *Fellows*; Dr. T. C. BAILEY, R. BAKER, Dr. J. H. GLADSTONE, Miss R. DAVENPORT HILL, Dr. WYATT JOHNSTON, WILLIAM MARTINDALE, H. DUNCAN SKRINE, R. G. WALTON, *Members*; J. HARRISON, E. MITCHELL, W. L. WALKER, *Associates*.

## EPITOME OF THE WORK OF THE INSTITUTE, 1902.

LONDON MEETINGS AND EXAMINATIONS.		Total Attendance
4	Sessional Meetings for discussion of Sanitary subjects ..	470
64	Lectures to Sanitary Officers .. .. .	3,748
2	Special Demonstrations, Inspection of Meat .. ..	133
29	Practical Demonstrations for Sanitary Officers .. ..	603
2	Examinations in Practical Sanitary Science .. ..	34
2	Examinations for Inspectors of Nuisances .. ..	235
2	Examinations for Inspectors of Meat .. ..	42
143	Council and Committee Meetings .. .. .	768
154	Classes brought to the Museum .. .. .	3,073
	Other persons visiting the Museum ( <i>Estimated</i> ) .. ..	8,000
30	Lectures on School Hygiene .. .. .	540

## CONGRESS AND EXHIBITION AT MANCHESTER.

5	Sectional Meetings .. .. .	581
8	Conferences .. .. .	1,203
3	Addresses and Lectures .. .. .	800
	Exhibition open for seventeen days.. .. .	29,164

COLONIAL AND PROVINCIAL MEETINGS.		Total Attendances.
8 Examinations in Practical Sanitary Science .. ..	27	
1 Examination in Practical Hygiene for School Teachers..	11	
12 Examinations for Inspectors of Nuisances .. ..	696	
2 Examinations for Inspectors of Meat and other Foods ..	24	
6 Lectures in West Riding, Yorkshire ( <i>Estimated</i> ) .. ..	1,000	

A. WYNTER BLYTH,

*Chairman of Council.*

E. WHITE WALLIS,

*Secretary.*

*March 11th, 1903.*

## STATEMENT of INCOME and EXPENDITURE

Dr.	EXPENDITURE.	£	s.	d.	£	s.	d.
<i>Establishment Charges :—</i>							
To Rent, Rates, Taxes, and Insurance .....		524	2	6			
„ Salaries and Wages .....		1,305	19	7			
„ Coals, Lighting, and Care of Offices .....		104	11	5			
„ Repairs, Alteration, and Arrangement of Museum .....		92	1	9			
„ Library, Binding, &c. ....		1	6	2			
„ Postage and Carriage .....		232	13	7			
„ Printing, Stationery, and Advertising.....		265	15	5			
„ Incidental Expenses .....		93	10	0			
„ Office Furniture .....		21	11	0			
„ Depreciation of Leaseholds .....		25	0	0			
					2,666	11	5
<i>Special Expenses, exclusive of Establishment Charges :—</i>							
To Journal and Publications, Cost of Print- ing, etc., less Sales and Advertisements		706	0	3			
„ Index to Transactions, less Sales .....							
„ Sessional Meetings .....		10	10	11			
„ Lectures, Sanitary Officers.....		231	17	8			
„ „ School Hygiene.....		17	15	11			
„ „ Meat Inspectors .....		70	5	6			
„ Examination Expenses .....		1,222	17	6			
„ Congress at Manchester .....		1,001	18	2			
„ Exhibition .....		2,773	18	11			
„ List of Awards to Exhibits .....		9	16	1			
„ Experiments .....							
„ Institute Dinner—Balance of Expenses...		24	17	2			
					6,069	18	1
					8,736	9	6
„ Balance carried to Nett Revenue account .					704	11	7
					£9,441	1	1

## NETT REVENUE

To Amount allotted to Building Fund .....	1,000	0	0
Balance to be carried forward to next a/c.....	8,946	0	4
	£9,946	0	4

for the Year ended 31st December, 1902.

INCOME.			Gr.		
	£	s. d.	£	s. d.	
<i>General Receipts:—</i>					
By Annual Subscriptions, less Arrears written off .....	1,864	7 0			
„ Interest on Investments, etc. ....	448	6 0			
			2,312	13 0	
<i>Special Receipts:—</i>					
„ Lectures, Sanitary Officers .....	266	4 6			
„ „ School Hygiene .....	18	2 11			
„ „ Meat Inspectors .....	102	18 0			
„ Examinations .....	3,096	17 6			
„ Congress at Manchester .....	704	8 11			
„ Exhibition „ .....	2,939	16 3			
			7,123	8 1	

£9,441 1 1

## ACCOUNT.

By Balance brought forward from last account (1901) ...	9,241	8 9
„ „ for the year brought down .....	704	11 7
	<u>£9,946</u>	<u>0 4</u>

*BUILDING*

To Balance .....	£	s.
	7,707	6
	<hr/>	
	£7,707	6
	<hr/>	

*GENERAL BALANCE SHEET*

LIABILITIES.		£	s.	d.	£	s.
To Fees and Subscriptions paid in advance for 1903	142	18	6			
„ Sundry Creditors .....	864	3	5			
	<hr/>			1,007	1	
„ Balance of Library Catalogue Account .....	98	2	9			
„ „ Life Composition Fund .....	480	18	0			
„ „ Building Fund.....	7,707	6	0			
	<hr/>			8,286	6	
„ Income and Expenditure Account Balance .....				8,946	0	

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£18,239 9

Examined with the Books, Vouchers, and Accounts and found correct

March 10th, 1903.

**FUND.**

	£	s.	d.
By Balance forward from last Account .....	6,396	6	0
" Nett Revenue Account .....	1,000	0	0
" Donations .....	311	0	0
	<u>£7,707</u>	<u>6</u>	<u>0</u>

Further Donations have been promised to the amount of £412 18s. Od.

**31st DECEMBER, 1902.**

	ASSETS.	£	s.	d.	£	s.	d.
By Leases of Premises, Library and Contents of Museum, Furniture and Publications .....		1,335	9	6			
" Subscriptions in Arrear and Sundry Debtors ...		759	11	8			
" Cash in hand and on deposit .....		871	9	10			
					2,966	11	0
" Investments valued at Cost—							
£7,658 11 1 2½% Consols .....		7,452	15	0			
£1,000 0 0 3 % India Stock .....		1,095	1	0			
£1,000 0 0 3½% " .....		1,156	6	0			
£5,000 0 0 4 % New Zealand Stock .....		5,568	16	0			
					15,272	18	0
<i>The Market Value of these Securities on Dec. 31st, 1902, was £14,701 4s. 1d.</i>							
					<u>£18,239</u>	<u>9</u>	<u>0</u>

W. COLLINGRIDGE, M.A., M.D.,  
LASS, WOOD & DREW, Chartered Accountants, } Auditors.

## REVIEWS OF BOOKS.

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### PUBLIC LIGHTING BY GAS AND ELECTRICITY.\*

This book deserves commendation, as it contains in a convenient form much useful data on the subjects dealt with. The introductory chapter gives an interesting historical account of the discovery of the illuminating property of coal gas by Murdock, followed by the utilization of electrical energy. The Author treats in a clear manner with the general conditions which govern the production and measurement of artificial light. Tables are given with useful records of many observations in regard to variations in quantity and quality of gas as affecting the unit of light yielded. The various meters and burners are well described, and calorific results tabulated.

Passing on to the second part of the book, which deals with electricity, the Author explains by the aid of diagrams (prepared for him by Mr. G. E. Moore) the processes involved in the production of electrical energy, and its utilization for the purpose of illumination. He describes several installations both on the alternating, and on the continuous current systems, which are well chosen. The use of acetylene for lighting purposes has of late become sufficiently prominent to deserve the chapter which is devoted to it. A useful reference is made to the report on public lighting by the Committee of Light of the Board of Legislation of Cincinnati, U.S.A. A series of tables giving in a convenient form the results obtained by various authorities in regard to the distribution of public lamps, their height, candle power, cost, etc., completes a book which will be found of service to those who are interested in this large subject. H. R.

### THE CONSTRUCTION OF ROADS, PATHS, AND SEA DEFENCES.†

This is a useful book, not only to Engineers but also to the Sanitarian. It deals in a practical manner with the subjects indicated by the title. The chapter on "wood paving from a sanitary standpoint" is useful, but it merely gives the opinions of various experts; we should have liked Mr. Latham's own opinion. However, he gives a practical test for the absorptive qualities of a hard wood pavement against those of a macadamised road, viz., to pour a pint of water on the surface and note the result.

The various methods adopted for cleansing the surfaces of streets are well described, and the author advocates the employment of men

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\* Public Lighting by Gas and Electricity. By W. J. Dibdin, F.I.C., F.C.S. 537 pp., 8vo. London, 1903. Sanitary Publishing Co. Price 12s. 6d.

† The Construction of Roads, Paths, and Sea Defences. By Frank Latham, M.Inst.C.E.I. 221 pp. 8vo. The Sanitary Publishing Co., London, 1903.

under the direct control of the Authority for this purpose, and not to let such work out to contract.

The broom attachment clip road sweeper, patented by the author, is described, and seems to be a simple and useful tool.

Typical specifications are given for the construction of various road surfaces, and for sewers and sea walls. There is a useful tabulated statement as to road paving in the pocket, and there is a good index.

H. P. B.

### THE EARTH IN RELATION TO THE PRESERVATION AND DESTRUCTION OF CONTAGIA.\*

This is for the most part a reprint of the Milroy Lectures of 1899, and consists (excepting the last two chapters which are devoted to dietetics) of an exposition of Dr. Poore's well-known views upon the subject of excreta disposal.

These views may be briefly summarised as follows:—

Dry methods of sewage disposal are far superior to water carriage, because,

- (1) They enable us to preserve the fixed nitrogen of the excreta for the benefit of cultivated soils.
- (2) They confine all organic pollution to the surface layers of the soil, and so favour useful and rapid decomposition, and obviate the risk of contamination to deep sources of water supply.
- (3) They are not only economical as conserving the manurial value of the excreta, but are less costly to equip and maintain than water-carriage systems.

In dealing with the surface soil as a nidus for the spores of tetanus and anthrax, Dr. Poore lays special stress upon the comparative infrequency of cases of either of these diseases traceable to direct infection from the earth.

Notwithstanding the original work of Ballard, and that of other later observers upon similar lines, Dr. Poore does not consider that epidemic diarrhoea has been shown in any true sense to be a soil disease.

Dysentery he considers to be due rather to the influence of the "common exciters of inflammation" upon the subjects of fatigue and hardship, than to any specific agent.

Cholera is just touched upon, and the opinions of Ernest Hart and Pettenkofer regarding its causation are quoted without comment.

After touching upon Malaria, Blackwater Fever, Tsetse Fly Disease, Louping Ill, Texas Fever, and Horse Sickness, and suggesting that proper drainage and cultivation of the soil are probably the best preventive safeguards against them, he goes on to discuss Enteric Fever in relation to the various factors of its etiology.

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\* *The Earth in Relation to the Preservation and Destruction of Contagia.*  
By G. Vivian Poore, M.D.Lond., F.R.C.P. Longmans, Green & Co. 1902.



After alluding to the experiments of Sydney Martin and John Robertson (which go to show that Eberth's *Bacillus* has but a comparatively short life in foul soils) and the views of various authorities respecting the part played by the soil in the propagation of enteric fever, he goes on to discuss the probable source of the specific poison in various outbreaks which have been traced to polluted water, and states that there is safety rather than danger in cultivating the land lying over and about springs of water, provided the superjacent earth be fairly thick.

Scientific economy and sanitary safety, he says, alike demand the cultivation of land with the aid of natural manure of all kinds, but the shallow burial of fæces must be done methodically and carefully, and with every attention to detail if nuisance is to be avoided, and the maximum benefit obtained from their manurial qualities.

Dr. Poore acknowledges that the filthy conditions engendered in towns like Middlesbrough and Nottingham by the abuse of the dry closets in poor neighbourhoods are likely to foster the prevalence of enteric fever, but he thinks that our large municipalities might, if they would, follow the example of some small Dutch towns, and his own model settlement at Andover, where dry systems are undoubtedly managed in a decent, safe, and economic manner.

In the concluding chapters he warns us of the risk of relying upon the nutritive values of preserved foods, such as sterilized milk, bottled fruits, and frozen meats, to the exclusion of fresh foods recently obtained from their natural sources. The question, he says, whether this old food has the same value as fresh is one that is difficult to answer, but in the present state of our ignorance there ought to be no risk of mistaking the one for the other. In the same way, he contends (with perfect justice), tasteless antiseptics, such as boric acid, ought not to be added to foods unless the fact of their addition is clearly stated.

It is surely as dangerous, he says, to keep a baby too exclusively on pickled milk, as to keep a sailor too exclusively on pickled pork.

P. B.

### MODERN SCHOOL BUILDINGS.\*

This book is a welcome addition to the literature relating to School Hygiene, and will be found specially useful to students undergoing the course of training in Applied Hygiene for School Teachers.

Its chief aims are to supply information in connection with Secondary Schools, drawn from as many sources as possible and illustrated by existing buildings in Germany, Switzerland, America, and

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\* *Modern School Buildings, Elementary and Secondary. A Treatise on the Planning, Arrangement, and Fitting of Day and Boarding Schools, having special regard to School Discipline, Organisation, and Educational requirements; with special chapters on Class Rooms, Lighting, Warming, Ventilation, and Sanitation.* By Felix Clay, B.A. 459 pp., 8vo. B. T. Batsford. London, 1902. 25s. net.

Great Britain, "for the purpose of affording the necessary data from which a healthy and convenient building may be evolved," and to emphasise the cardinal fact that the plan of the building should be dependent upon the organisation of the School.

The numerous illustrations are well arranged and add greatly to the value of the work; the omission of the points of the compass from many of the plans is unfortunate.

Much interesting information is given in Chapter I. as to the Types or Grades of Schools; the origin of our Older Schools and Private Schools; the Authorities who control Secondary Education; the Royal Commission and its recommendations; the new Board of Education, &c.

Chapter II. treats of the organisation of Secondary Schools.

Other chapters are devoted to the growth and organisations of Girls' Schools, Day Schools, Boarding Schools and Houses, Training Colleges and Elementary Schools in Town and Country; also to German and American School systems.

In the concluding chapters upon the Hygiene of Schools, the author makes exceedingly interesting comments upon the Plenum system of ventilation as applied to these buildings.

No important part of the subject has been left unconsidered, and every chapter is full of interesting up-to-date facts which ought to be carefully noted by all concerned with Schools, especially by those who are responsible for the erection of buildings and those who work in them. It not unfrequently happens that appliances designed to promote the health and comfort of the occupants of a School remain unused from lack of knowledge on the part of the Teachers or those in charge of the building.

We commend the remarks on "Dimensions of Class Rooms and Floor area" to those Medical Officers who advocate 500 to 800 cubic feet per scholar. The author considers 200 to 260 cubic feet per head sufficient reasonably to fulfil the conditions demanded by Sanitary Science. He also gives a list of Dimensions of Class Rooms and the number of square feet of floor space per head in sixteen typical Foreign and English Schools.

The notes upon "Aspect" are excellent, and point to a defect in the economical and convenient Central Hall type of School.

The book is admirably printed, and the illustrations are unusually good.

J. O. S.

#### SCHOOL HYGIENE.\*

The appearance of a ninth edition of Dr. Newsholme's *School Hygiene*, the first edition of which appeared in 1887, is both a tribute to its intrinsic value and a proof that it fulfils the purpose

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\* *School Hygiene*. By Arthur Newsholme, M.D., F.R.C.P., and Walter C. C. Pakes, D.P.H. Ninth Edition. 309 pp., 8vo. Swan, Sonnenschein & Co., Ltd. London, 1903.

for which it was originally intended; a persuasion that, in its earlier forms, the manual to some extent presumed a greater knowledge of the principles of hygiene and of preventive medicine than could well be expected to obtain in the case of school teachers, has induced Dr. Newsholme, with the collaboration of Mr. Walter Pakes, to rewrite it on fuller and more explanatory lines. For the first part of the book, which deals with *Scholars*, Dr. Newsholme is mainly responsible, and Mr. Pakes for Part II.—*Schools*. The result is a somewhat larger, but yet quite handy, volume, containing a great mass of valuable, carefully condensed but readable, information.

The extreme difficulty of dealing with "Hygiene and the principles of Preventive Medicine," on anything like full and explanatory lines in a book of some 300 freely illustrated small pages printed in good type is obvious. And the question is always arguable as to whether it is not wiser to keep the more elementary work of the handbook distinct from the more expanded details of the advanced treatise. But so far as it is possible to realize the ideal set up by its authors, we think this volume is successful. Great care has evidently been given to its compilation, and it has the advantage of a comprehensively useful index.

It is stated that the infection in cases of Rubella (for which the obsolete Rötheln is retained) lasts for from two to three weeks. Some years ago the Medical Officers of Schools Association agreed that an isolation period of ten days was ample in this disease, if the patient was otherwise well; and no untoward results have been reported from the observance of this rule.

Persisting discharge from nose, eyes, and ears, etc., should be as great a bar to a scholar's return to school after scarlatina, as in the case of diphtheria; and it might be pointed out that, in the latter disease, swabs for bacterioscopic examination should not be taken unless local bacteriocidal applications have been discontinued for three days previously. Attention might be directed to the need for seeing that the discharge from the overflow pipes of cisterns falls quite clear of, and does not produce dampness of the walls of buildings. As regards the "quarantine period" to be imposed on those who have been exposed to infection, it ought to be clearly pointed out that this must remain indefinite (especially in the case of diseases of which the virus is long-lived and resistant—*e.g.*, scarlatina), unless the person and clothing of the individual be disinfected, and that at the beginning of the quarantine period in each case.

C. E. S.

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## ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

*Abstracts of Titles classified in this List under the following headings:—*

Science in Relation to Hygiene and Preventive Medicine.

Hygiene of Special Classes, Trades, and Professions ; and  
Municipal Administration.

Building Materials, Construction, and Machinery.

Water Supply, Sewerage, and Refuse Disposal.

Heating, Lighting, and Ventilating.

Personal and Domestic Hygiene.

*The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.*

## Science in relation to Hygiene and Preventive Medicine.

ANDREWS, THOMAS, F.R.S., M.Inst.C.E. Volcanoes and Volcanic Dust. *Engineering*, Jan. 23rd, 1903, p. 97.

Description of a volcano—theories of volcanic action—main groups of igneous rocks—lunar volcanoes—theories of volcanic action—causes of existing volcanoes—probable causes of special local volcanic energy.

——— Volcanoes and Volcanic Dust (*continued*). *Engineering*, Feb. 13th, 1903, p. 195.

Volcanic dust—microscopic examination of volcanic dust, illustrated—the mission of volcanoes—appendix.

APOLANT, Dr. H., and EMBDEN, Dr. G. Über die Natur einiger Zelleinschlüsse in Carcinomen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 3, p. 353.

This is a paper on the nature of some cell inclusions in Carcinomen.

AUERBACH, M., and UNGER, E. Der Nachweis der Typhus bacillen am Menschen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 1, p. 139.

The paper deals with typhoid bacilli in human beings and their identification.

**BUILDING**

	£	s.	d.
To Balance .....	7,707	6	0
	<u>£7,707</u>	<u>6</u>	<u>0</u>

**GENERAL BALANCE SHEET,**

	LIABILITIES.			£	s.	d.	£	s.	d.
To Fees and Subscriptions paid in advance for 1903	142	18	6						
„ Sundry Creditors .....	864	3	5						
							1,007	1	11
„ Balance of Library Catalogue Account .....	98	2	9						
„ „ Life Composition Fund .....	480	18	0						
„ „ Building Fund.....	7,707	6	0						
							8,286	6	9
„ Income and Expenditure Account Balance .....							8,946	0	4

£18,239 9 0

Examined with the Books, Vouchers, and Accounts and found correct.

March 10th, 1903.

## FUND.

	£	s.	d.
By Balance forward from last Account .....	6,396	6	0
„ Nett Revenue Account .....	1,000	0	0
„ Donations .....	311	0	0
	<u>£7,707</u>	<u>6</u>	<u>0</u>

Further Donations have been promised to the amount of £412 18s. Od.

## 31st DECEMBER, 1902.

	ASSETS.	£	s.	d.	£	s.	d.
By Leases of Premises, Library and Contents of Museum, Furniture and Publications .....		1,335	9	6			
„ Subscriptions in Arrear and Sundry Debtors ...		759	11	8			
„ Cash in hand and on deposit .....		871	9	10			
					2,966	11	0
„ Investments valued at Cost—							
£7,658 11 1 2½% Consols .....		7,452	15	0			
£1,000 0 0 3 % India Stock .....		1,095	1	0			
£1,000 0 0 3½% „ .....		1,156	6	0			
£5,000 0 0 4 % New Zealand Stock .....		5,668	16	0			
					15,272	18	0
<i>The Market Value of these Securities on Dec. 31st, 1902, was £14,701 4s. 1d.</i>							
					<u>£18,239</u>	<u>9</u>	<u>0</u>

W. COLLINGRIDGE, M.A., M.D.,  
LASS, WOOD & DREW, Chartered Accountants, } Auditors.

## REVIEWS OF BOOKS.

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### PUBLIC LIGHTING BY GAS AND ELECTRICITY.\*

This book deserves commendation, as it contains in a convenient form much useful data on the subjects dealt with. The introductory chapter gives an interesting historical account of the discovery of the illuminating property of coal gas by Murdock, followed by the utilization of electrical energy. The Author treats in a clear manner with the general conditions which govern the production and measurement of artificial light. Tables are given with useful records of many observations in regard to variations in quantity and quality of gas as affecting the unit of light yielded. The various meters and burners are well described, and calorific results tabulated.

Passing on to the second part of the book, which deals with electricity, the Author explains by the aid of diagrams (prepared for him by Mr. G. E. Moore) the processes involved in the production of electrical energy, and its utilization for the purpose of illumination. He describes several installations both on the alternating, and on the continuous current systems, which are well chosen. The use of acetylene for lighting purposes has of late become sufficiently prominent to deserve the chapter which is devoted to it. A useful reference is made to the report on public lighting by the Committee of Light of the Board of Legislation of Cincinnati, U.S.A. A series of tables giving in a convenient form the results obtained by various authorities in regard to the distribution of public lamps, their height, candle power, cost, etc., completes a book which will be found of service to those who are interested in this large subject. H. R.

### THE CONSTRUCTION OF ROADS, PATHS, AND SEA DEFENCES.†

This is a useful book, not only to Engineers but also to the Sanitarian. It deals in a practical manner with the subjects indicated by the title. The chapter on "wood paving from a sanitary standpoint" is useful, but it merely gives the opinions of various experts; we should have liked Mr. Latham's own opinion. However, he gives a practical test for the absorptive qualities of a hard wood pavement against those of a macadamised road, viz., to pour a pint of water on the surface and note the result.

The various methods adopted for cleansing the surfaces of streets are well described, and the author advocates the employment of men

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\* Public Lighting by Gas and Electricity. By W. J. Dibdin, F.I.C., F.C.S. 537 pp., 8vo. London, 1903. Sanitary Publishing Co. Price 12s. 6d.

† The Construction of Roads, Paths, and Sea Defences. By Frank Latham, M.Inst.C.E.I. 221 pp. 8vo. The Sanitary Publishing Co., London, 1903.

under the direct control of the Authority for this purpose, and not to let such work out to contract.

The broom attachment clip road sweeper, patented by the author, is described, and seems to be a simple and useful tool.

Typical specifications are given for the construction of various road surfaces, and for sewers and sea walls. There is a useful tabulated statement as to road paving in the pocket, and there is a good index.

H. P. B.

### THE EARTH IN RELATION TO THE PRESERVATION AND DESTRUCTION OF CONTAGIA.\*

This is for the most part a reprint of the Milroy Lectures of 1899, and consists (excepting the last two chapters which are devoted to dietetics) of an exposition of Dr. Poore's well-known views upon the subject of excreta disposal.

These views may be briefly summarised as follows:—

Dry methods of sewage disposal are far superior to water carriage, because,

- (1) They enable us to preserve the fixed nitrogen of the excreta for the benefit of cultivated soils.
- (2) They confine all organic pollution to the surface layers of the soil, and so favour useful and rapid decomposition, and obviate the risk of contamination to deep sources of water supply.
- (3) They are not only economical as conserving the manurial value of the excreta, but are less costly to equip and maintain than water-carriage systems.

In dealing with the surface soil as a nidus for the spores of tetanus and anthrax, Dr. Poore lays special stress upon the comparative infrequency of cases of either of these diseases traceable to direct infection from the earth.

Notwithstanding the original work of Ballard, and that of other later observers upon similar lines, Dr. Poore does not consider that epidemic diarrhoea has been shown in any true sense to be a soil disease.

Dysentery he considers to be due rather to the influence of the "common exciters of inflammation" upon the subjects of fatigue and hardship, than to any specific agent.

Cholera is just touched upon, and the opinions of Ernest Hart and Pettenkofer regarding its causation are quoted without comment.

After touching upon Malaria, Blackwater Fever, Tsetse Fly Disease, Louping Ill, Texas Fever, and Horse Sickness, and suggesting that proper drainage and cultivation of the soil are probably the best preventive safeguards against them, he goes on to discuss Enteric Fever in relation to the various factors of its etiology.

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\* The Earth in Relation to the Preservation and Destruction of Contagia. By G. Vivian Poore, M.D.Lond., F.R.C.P. Longmans, Green & Co. 1902.



After alluding to the experiments of Sydney Martin and John Robertson (which go to show that Eberth's *Bacillus* has but a comparatively short life in foul soils) and the views of various authorities respecting the part played by the soil in the propagation of enteric fever, he goes on to discuss the probable source of the specific poison in various outbreaks which have been traced to polluted water, and states that there is safety rather than danger in cultivating the land lying over and about springs of water, provided the superjacent earth be fairly thick.

Scientific economy and sanitary safety, he says, alike demand the cultivation of land with the aid of natural manure of all kinds, but the shallow burial of fæces must be done methodically and carefully, and with every attention to detail if nuisance is to be avoided, and the maximum benefit obtained from their manurial qualities.

Dr. Poore acknowledges that the filthy conditions engendered in towns like Middlesbrough and Nottingham by the abuse of the dry closets in poor neighbourhoods are likely to foster the prevalence of enteric fever, but he thinks that our large municipalities might, if they would, follow the example of some small Dutch towns, and his own model settlement at Andover, where dry systems are undoubtedly managed in a decent, safe, and economic manner.

In the concluding chapters he warns us of the risk of relying upon the nutritive values of preserved foods, such as sterilized milk, bottled fruits, and frozen meats, to the exclusion of fresh foods recently obtained from their natural sources. The question, he says, whether this old food has the same value as fresh is one that is difficult to answer, but in the present state of our ignorance there ought to be no risk of mistaking the one for the other. In the same way, he contends (with perfect justice), tasteless antiseptics, such as boric acid, ought not to be added to foods unless the fact of their addition is clearly stated.

It is surely as dangerous, he says, to keep a baby too exclusively on pickled milk, as to keep a sailor too exclusively on pickled pork.

P. B.

### MODERN SCHOOL BUILDINGS.\*

This book is a welcome addition to the literature relating to School Hygiene, and will be found specially useful to students undergoing the course of training in Applied Hygiene for School Teachers.

Its chief aims are to supply information in connection with Secondary Schools, drawn from as many sources as possible and illustrated by existing buildings in Germany, Switzerland, America, and

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\* *Modern School Buildings, Elementary and Secondary. A Treatise on the Planning, Arrangement, and Fitting of Day and Boarding Schools, having special regard to School Discipline, Organisation, and Educational requirements; with special chapters on Class Rooms, Lighting, Warming, Ventilation, and Sanitation.* By Felix Clay, B.A. 459 pp., 8vo. B. T. Batsford. London, 1902. 25s. net.

Great Britain, "for the purpose of affording the necessary data from which a healthy and convenient building may be evolved," and to emphasise the cardinal fact that the plan of the building should be dependent upon the organisation of the School.

The numerous illustrations are well arranged and add greatly to the value of the work; the omission of the points of the compass from many of the plans is unfortunate.

Much interesting information is given in Chapter I. as to the Types or Grades of Schools; the origin of our Older Schools and Private Schools; the Authorities who control Secondary Education; the Royal Commission and its recommendations; the new Board of Education, &c.

Chapter II. treats of the organisation of Secondary Schools.

Other chapters are devoted to the growth and organisations of Girls' Schools, Day Schools, Boarding Schools and Houses, Training Colleges and Elementary Schools in Town and Country; also to German and American School systems.

In the concluding chapters upon the Hygiene of Schools, the author makes exceedingly interesting comments upon the Plenum system of ventilation as applied to these buildings.

No important part of the subject has been left unconsidered, and every chapter is full of interesting up-to-date facts which ought to be carefully noted by all concerned with Schools, especially by those who are responsible for the erection of buildings and those who work in them. It not unfrequently happens that appliances designed to promote the health and comfort of the occupants of a School remain unused from lack of knowledge on the part of the Teachers or those in charge of the building.

We commend the remarks on "Dimensions of Class Rooms and Floor area" to those Medical Officers who advocate 500 to 800 cubic feet per scholar. The author considers 200 to 260 cubic feet per head sufficient reasonably to fulfil the conditions demanded by Sanitary Science. He also gives a list of Dimensions of Class Rooms and the number of square feet of floor space per head in sixteen typical Foreign and English Schools.

The notes upon "Aspect" are excellent, and point to a defect in the economical and convenient Central Hall type of School.

The book is admirably printed, and the illustrations are unusually good.

J. O. S.

### SCHOOL HYGIENE.\*

The appearance of a ninth edition of Dr. Newsholme's *School Hygiene*, the first edition of which appeared in 1887, is both a tribute to its intrinsic value and a proof that it fulfils the purpose

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\* *School Hygiene*. By Arthur Newsholme, M.D., F.R.C.P., and Walter C. C. Pakes, D.P.H. Ninth Edition. 309 pp., 8vo. Swan, Sonnenschein & Co., Ltd. London, 1903.

for which it was originally intended; a persuasion that, in its earlier forms, the manual to some extent presumed a greater knowledge of the principles of hygiene and of preventive medicine than could well be expected to obtain in the case of school teachers, has induced Dr. Newsholme, with the collaboration of Mr. Walter Pakes, to rewrite it on fuller and more explanatory lines. For the first part of the book, which deals with *Scholars*, Dr. Newsholme is mainly responsible, and Mr. Pakes for Part II.—*Schools*. The result is a somewhat larger, but yet quite handy, volume, containing a great mass of valuable, carefully condensed but readable, information.

The extreme difficulty of dealing with "Hygiene and the principles of Preventive Medicine," on anything like full and explanatory lines in a book of some 300 freely illustrated small pages printed in good type is obvious. And the question is always arguable as to whether it is not wiser to keep the more elementary work of the handbook distinct from the more expanded details of the advanced treatise. But so far as it is possible to realize the ideal set up by its authors, we think this volume is successful. Great care has evidently been given to its compilation, and it has the advantage of a comprehensively useful index.

It is stated that the infection in cases of Rubella (for which the obsolete Rötheln is retained) lasts for from two to three weeks. Some years ago the Medical Officers of Schools Association agreed that an isolation period of ten days was ample in this disease, if the patient was otherwise well; and no untoward results have been reported from the observance of this rule.

Persisting discharge from nose, eyes, and ears, etc., should be as great a bar to a scholar's return to school after scarlatina, as in the case of diphtheria; and it might be pointed out that, in the latter disease, swabs for bacterioscopic examination should not be taken unless local bacteriocidal applications have been discontinued for three days previously. Attention might be directed to the need for seeing that the discharge from the overflow pipes of cisterns falls quite clear of, and does not produce dampness of the walls of buildings. As regards the "quarantine period" to be imposed on those who have been exposed to infection, it ought to be clearly pointed out that this must remain indefinite (especially in the case of diseases of which the virus is long-lived and resistant—*e.g.*, scarlatina), unless the person and clothing of the individual be disinfected, and that at the beginning of the quarantine period in each case.

C. E. S.

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## ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

*Abstracts of Titles classified in this List under the following headings:—*

**Science in Relation to Hygiene and Preventive Medicine.**

**Hygiene of Special Classes, Trades, and Professions; and  
Municipal Administration.**

**Building Materials, Construction, and Machinery.**

**Water Supply, Sewerage, and Refuse Disposal.**

**Heating, Lighting, and Ventilating.**

**Personal and Domestic Hygiene.**

*The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.*

### Science in relation to Hygiene and Preventive Medicine.

ANDREWS, THOMAS, F.R.S., M.Inst.C.E. Volcanoes and Volcanic Dust. *Engineering*, Jan. 23rd, 1903, p. 97.

Description of a volcano—theories of volcanic action—main groups of igneous rocks—lunar volcanoes—theories of volcanic action—causes of existing volcanoes—probable causes of special local volcanic energy.

——— Volcanoes and Volcanic Dust (*continued*). *Engineering*, Feb. 13th, 1903, p. 195.

Volcanic dust—microscopic examination of volcanic dust, illustrated—the mission of volcanoes—appendix.

APOLANT, Dr. H., and EMBDEN, Dr. G. Über die Natur einiger Zelleinschlüsse in Carcinomen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 3, p. 353.

This is a paper on the nature of some cell inclusions in Carcinomen.

AUERBACH, M., and UNGER, E. Der Nachweis der Typhus bacillen am Menschen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 1, p. 139.

The paper deals with typhoid bacilli in human beings and their identification.

CANTANI, Dr. A. Immunisirungs versuche gegen Influenza. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 3, p. 505.

The paper describes immunising experiments against Influenza.

CONRADI, H.; DRIGALSKI, W. V.; JUERGENS, G. Ueber eine unter dem Bilde des Typhus verlaufende durch einen besonderen Erreger bedingte Epidemie. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 1, p. 141.

The paper deals with an epidemic which in its clinical appearances was much like typhoid fever, but which was caused by a separate exciting cause.

FLUEGGE, Prof. C. Ueber Tuberkelbacillenzüchtung und Formaldehyddesinfection. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 1, p. 115.

Prof. Fluegge deals with the cultivating of tubercle bacilli and disinfection by Formaldehyde; it is a reply to Spengler's paper on the same subject.

GRAM, H. M. Untersuchungen über das Verhalten von Milzbrand und Geflügelcholera bacillen im Körper von Mäusen bei Mischinfection. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 2, p. 255.

The paper deals with the behaviour of anthrax bacilli and the bacilli of fowl cholera in the bodies of mice in mixed infection.

HESSE, Dr. W. Ueber die Abtödtung der Tuberkelbacillen in 60° C. warmer Milch. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 1, p. 175.

The paper deals with the destruction of tubercle bacilli in milk of a temperature of 60° C.

HESSE, W., and NIEDNER, Dr. Zur Methodik der bakteriologischen Wasseruntersuchung. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 1, p. 179.

The paper deals with the bacteriological examination of water.

KAYSER, Dr. H. Ueber Bakterienhaemolysine, im Besonderen das Colilysin. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 1, p. 118.

The paper deals with bacterial hæmolysins, and particularly with Colilysin.

LINGELNSHEIM, Dr. VON. Ausfällung baktericider und globulicider Blutfermente durch Pflanzenschleim. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 2, p. 308.

The paper deals with the precipitation of bactericidal and globulicidal blood ferments through the slime of plants.

MARKL, Dr. G. Zur Kenntniss des Mechanismus der Künstlichen Immunität gegen Pest. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 2, p. 244.

The paper deals with the mechanism of the artificial immunity against the bubonic plague.

MAGGIORA, Prof. A., und VALENTI, Dr. G. L. Ueber eine Seuche von exsudativem Typhus bei Hühnern. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 2, p. 185.

The authors describe an epidemic of exudative typhus in fowls.

MARTINI, Dr. E. Ueber die Entwicklung der Tsetseparasiten in Säugethieren. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 2, p. 341.

The paper deals with the development of the Tsetse parasites in mammalia.

——— Ueber eine *Filaria sanguinis equi*. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 2, p. 351.

The paper deals with the appearance of filaria in the blood of horses.

MERTENS, Dr. V. E. Beiträge zur Aktinomykoseforschung. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 1, p. 45.

The paper contains contributions to the investigations concerning Actinomycosis.

PANSE, O. Schwarzwasserfieber. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 1, p. 1.

The author deals with Blackwater fever, and describes his experience in the Government hospital at Tanga in German East Africa.

PÖCH, Dr. R. Ueber das Verhalten der weissen Blutkörperchen bei Malaria. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 3, p. 563.

This is a paper on the behaviour of the white blood corpuscles in malarial fever.

POYNTER-WRIGHT, T., M.R.C.S., and BUSHNELL, F. G., M.D., D.P.H. The Desirability of appointing a Minister of Public Health. *The Journal of State Medicine*, February, p. 76.

RISEL, Dr. W. Ein Beitrag zur Pathologie des Milzbrandes beim Menschen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 3, p. 381.

The paper is a contribution to the pathology of anthrax in man.

ROSS, RONALD, C.B., F.R.S. Intermittent Fever. *The Journal of State Medicine*, February, p. 63.

Being the third of the Harben Lectures.

SCHÜDER, Dr. Strassenvirus und Virus fixe. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 3, p. 362.

The paper deals with street virus and virus fixe.

——— Zum Nachweis der Typhusbakterien im Wasser. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 2, p. 317.

On the identification of typhoid bacilli in water.

SPENGLER, Dr. C. Tuberkelbacillenzüchtung aus Bakterien-gemischen und Formaldehyddesinfection. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 1, p. 90.

The paper deals with the cultivation of tubercle bacilli from mixtures of bacteria and with disinfection by Formaldehyde.

SPIRIG, Dr. W. Studien über den Diphtherie bacillus. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 3, p. 420.

The paper contains studies on the diphtheria bacillus.

TOMASCZEWSKI, E. Dr. Bakteriologische Untersuchungen über den Erreger der Ulcus molle. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 2, p. 327.

The paper deals with the exciting cause of Ulcus molle.

WASSERMANN, A. Ueber Agglutinine und Präcipitine. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 2, p. 267.

The paper deals with Agglutinines and Praecipitines.

### **Hygiene of Special Classes, Trades, and Professions ; and Municipal Administration.**

ALDWINCKLE, THOMAS W., F.R.I.B.A. Emergency Fever Hospitals. *Building News*, December 26th, 1902, p. 898.

Description of the hospitals erected in connection with recent epidemics in London.

PRINZING, Dr. F. Die Erkrankungshäufigkeit nach Geschlecht und Alter. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 3, p. 467.

The author deals with the frequency of illness according to sex and age.

**Building Materials, Construction, and Machinery.**

"ENGINEERING RECORD." Cement Tests. January 31st, 1903, p. 132.

Progress Report of Special Committee of American Society of Civil Engineers on uniform tests of cement.

——— Hennebique Fireproof Construction. January 31st, 1903, p. 126.

Description of a five-story building in which the floors, roof, and staircases are made of reinforced concrete. The floors are composed of concrete beams with floor slabs above and ceiling slabs below.

**Water Supply, Sewerage, and Refuse Disposal.**

ANDREWS, H. Quantity of Mortar required for Pipe Sewer Joints. *Engineering Record*, March 21st, 1903, p. 300.

Table giving quantity of cement mortar required in cubic yards per 500 joints, for pipe sewers from 3 to 30 ins. diameter and of various patterns.

ANTHONY, CHARLES, Junr. A new Turbidimeter. *The Engineering Record*, January 24th, 1903, p. 106.

Description, with illustration, of an apparatus for determining the turbidity of water by a direct photometric method, involving the use of a Nicol polarising prism suitably mounted, so that the obscuration of light by a standard thickness of water may be measured on a graduated disc.

EDDY, H. P. Shone Ejector Plant at Worcester, Mass. *The Engineering Record*, February 28th, 1903, p. 223.

Description of ejector plant to deal with recent city extensions.

"ENGINEERING RECORD." Failure of a Reservoir Dam at Shelton, Conn. February 28th, 1903, p. 224.

Description of failure of combination earth and masonry dam, 500 feet long 18 feet high.

——— Water-waste Detection in New York City. January 31st, 1903, p. 122.

Description of Pitometer and its application to recording flow through 12 in. to 36 in. mains, with illustrations and indicator diagrams.

——— The Philadelphia Filtration System.—II.: Upper Roxborough Filters. March 28th, p. 317.

Illustrated description of sand filters, having a total area of about 5½ acres, for purifying the water from a reservoir containing 147 million gallons.



"ENGINEERING RECORD." An Efficient Sewer-cleaning Device.  
March 28th, p. 335.

Illustrated description of the Headley sewer-cleaning machine, consisting of a metal shovel followed by a rolling platform, and guided by ropes.

EWING, W. B. The Septic Tank at La Grange, Illinois.  
*The Engineering Record*, February 21st, 1903, p. 200.

Description of sewerage works for town of 3,500 inhabitants, originally discharging into open ditch.

GREATOREX, ALBERT D., Assoc.M.Inst.C.E. Municipal work in West Bromwich. *The Surveyor*, October 3rd, 1902, pp. 397-8.

Sewage disposal—construction and details of bacteria beds—method of working the beds—samples of effluent—analyses, and tables of analyses of samples of sewage.

HERING, RUDOLPH, M.Am.Soc.C.E., M.Inst.C.E. Sewerage Work; a Twenty-five Years' Review. *The Engineering Record*, Jan. 3rd, 1903, p. 21.

General description of Sewerage Work in the United States.

KINNICUTT, LEONARD P., D.Sc. The Septic Tank: its place in the Treatment of Sewage. *The Engineering Record*, Jan. 3rd, 1903, p. 16.

Description of Septic Tanks and mode of action. The author considers that in the majority of cases it is a valuable adjunct to the method of intermittent filtration, and an essential adjunct in the methods of treatment by contact beds and percolating filters.

PROSKAUER, Prof., and SCHUEDER, Dr. Weitere Versuche mit dem Ozon als Wassersterilisationsmittel im Wiesbadener Ozonwasserwerk. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLII., Heft 2, p. 203.

The paper describes further interesting experiments with ozone as a steriliser of water used for drinking purposes.

SCHULTZ, J. S. Slow Sand Filtration Plant for Washington, D.C. *Engineering Record*, March 14th, 1903, p. 269.

Full description, with drawings, for dealing with water from reservoir containing 300 million gallons.

SCOBLE, HERBERT T. Rural Drainage and Sewage Disposal. *The Building News*, Jan. 16th, 1903, p. 105.

The importance of sewage disposal for rural districts—Dr. Poore's system—water carriage system—supervision of rivers—reports of Royal Commission.

WEAVER, HENRY JAMES. Five Years' Municipal Work in King's Lynn. *The Surveyor*, Oct. 24th, 1902, p. 497-8.

King's Lynn Waterworks—old and new supplies—engines and pumps—service reservoir—waste water deduction—section diagram of wells.

### Heating, Lighting, and Ventilation.

"ENGINEERING RECORD." Ventilation and Heating in the East High School, Rochester, N.Y. Feb. 28th, 1903, p. 228, and Mar. 7th, 1903, p. 253.

Full description, with plans.

— Ventilating and Heating in the Cornell Medical Building. 14 March, 1903, p. 277.

Description of steam heating and ventilation by plenum fresh air system, assisted by exhaust fans.

### Personal and Domestic Hygiene.

BERTARELLI, Dr. E. Untersuchungen über die vermuthete Absorptionsgefahr bei Verwendung des Quecksilbers zu Desinfectionon mit Corrosiv-Sublimat. *Zeitschrift für Hygiene und Infectiouskrankheiten*, Vol. XLII., Heft 2, p. 553.

The author describes his experimental investigations into the alleged danger of absorption with the use of quicksilver in disinfections with corrosive sublimate.

BREWER, CECIL C. Some Notes on Sanatoria for Consumptives. *The Building News*, Nov. 28th, 1902, p. 749-50.

The open air system—planning of Sanatoria—the Nordrach plan—Sanatoria at Falkenstein, Hohenhonnef, Ruppertshain, and Alland—at Nayland in Sussex—points to be considered and general arrangements.

FLETCHER, BANISTER F. Sanatoria for Consumptives. *The Building News*, February 13th, 1903, pp. 222-3.

The expediency of providing sanatoria for consumptives—administration—plan—arrangement and exterior of building.

ZELLNER, H. Hefeextracte. *Zeitschrift für Hygiene und Infectiouskrankheiten*, Vol. XLII., Heft 3, p. 461.

The author deals with the question of yeast extracts.

## SANITARY LEGISLATION.

The Council of the Institute have had under consideration the following Bills introduced into Parliament during this Session. The action taken by the Council is noted in each case :—

*Housing of the Working Classes (London) Bill.* Introduced by Sir John Dickson-Poynder, Bart.

A Bill to regulate the conditions under which Displacements of persons of the Labouring Class may be made in London under Statutory Powers, and to require the provision of sufficient new Housing Accommodation.

Decided to petition in favour of this Bill.

*Prevention of Pollution of Rivers and Streams Bill.* Introduced by Sir Francis Sharp Powell, Bart.

A Bill to make further and amended provisions to prevent the Pollution of Rivers and Streams.

Decided to petition in favour of this Bill.

*Public Health Bill.* Introduced by Sir Francis Sharp Powell, Bart.

A Bill to amend the Law relating to the Qualification and Tenure of Office of Medical Officers of Health and Inspectors, and to make further provisions relating to Superannuation Allowances for such Officers and Inspectors ; and for other purposes.

Decided that the attention of the promoters of this Bill should be drawn to certain clauses where it was thought alterations were desirable.

*Sale of Adulterated Butter Bill.* Introduced by Mr. Hanbury and Mr. Secretary Akers-Douglas.

A Bill to amend the Law with regard to the Sale of Adulterated Butter.

Decided that no action be taken.

*Vaccination Bill.* Introduced by Mr. Broadhurst.

A Bill to amend the Vaccination Acts and to abolish Compulsory Vaccination.

Decided to petition against this Bill.

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## MEETINGS HELD JANUARY TO MARCH, 1903.

## ORDINARY GENERAL MEETING.

The Ordinary General Meeting was held on March 25th. The Annual Report and Statement of Accounts for 1902 were submitted. The Report, page 1 of this Supplement, gives an account of the various branches of work undertaken by the Institute.

The following resolution was passed, and the Officers and Members of the Council were elected or re-elected :

"That this meeting greatly appreciates the interest taken in the work of the Institute by His Royal Highness the Duke of Cambridge, and the assistance given by him in graciously holding the office of President. That the best thanks of the Institute are due and hereby presented to His Royal Highness, and that this meeting fully approves of the action taken by the Council, in accordance with the powers conferred upon by them Article 50a, in re-appointing His Royal Highness the Duke of Cambridge as President for another year."

*Vice-Presidents.*

HIS GRACE THE DUKE OF NORTHUMBERLAND, K.G., P.C.  
 RIGHT HON. EARL EGERTON OF TATTON.  
 RIGHT HON. EARL FORTESCUE.  
 RIGHT HON. EARL STAMFORD.  
 ROBERT FARQUHARSON, M.D., M.P., LL.D.  
 SIR JOSEPH FAYRER, BART., K.C.S.I., LL.D., M.D., F.R.S.  
 SIR FRANCIS SHARP POWELL, BART., M.P.  
 SIR WILLIAM HENRY PREECE, K.C.B., F.R.S., M.INST.C.E.  
 SIR THOMAS SALT, BART., M.A., D.L., J.P.  
 SIR HENRY THOMPSON, BART., F.R.C.S., M.B.LOND.  
 PROF. W. H. CORFIELD, M.A., M.D.OXON., F.R.C.P.  
 A. WATERHOUSE, R.A., F.R.I.B.A., LL.D.

*Re-elected and New Members of the Council.*

P. BOOBYER, M.D., M.R.C.S.	CHARLES E. PAGET, M.R.C.S.,
W. COLLINGRIDGE, M.A., M.D.,	D.P.H.
D.P.H.	H. ROBINSON, M.INST.C.E.
A. BOSTOCK HILL, M.D., D.P.H.	H. SAXON SNELL, F.R.I.B.A.
HY. HERBERT LAW, M.INST.C.E.	W. C. TYNDALE, M.INST.C.E.

*Treasurer.*

PROF. W. H. CORFIELD, M.A., M.D., F.R.C.P., F.I.C., F.C.S., F.G.S.

*Auditors.*

W. COLLINGRIDGE, M.A., M.D., LL.B., D.P.H.  
 ALFRED LASS, WOOD & DREW.

On January 21st a Conference was held on "Applied Hygiene for School Teachers", arranged by Bedford College and The Sanitary Institute, at the Bedford College for Women (Univ. of London), York Place, Baker Street, W. The Discussion was opened by Prof. C. S. SHERRINGTON, M.A., M.D., F.R.S. Michael E. Sadler in the chair. The Report of the Discussion is given at page 27 of the Journal.

On February 7th a Sessional Meeting was held at Manchester, in the Municipal School of Technology, at 11 a.m. The Discussion on the "Removal and Isolation of Infectious Patients in Populous Districts," was opened by MEREDITH YOUNG, M.D., D.P.H., M.O.H., Stockport. The chair was taken by A. Wynter Blyth, M.R.C.S., F.I.C., F.C.S., Chairman of Council. The Report of the Discussion is given at page 41 of the Journal.

On February 11th a Sessional Meeting was held at 8 p.m. The Discussion on "Present Shortage of Water available for Supply," was opened by W. WHITAKER, B.A., F.R.S., F.G.S., Assoc.Inst.C.E. The chair was taken by Sir Alexander Binnie, M.Inst.C.E. The Report of the Discussion is given at page 71 of the Journal.

A Sessional Meeting was held on March 11th at 8 p.m. The Discussion on "Sewage Disposal, and the qualities essential in a Sewage Effluent," was opened by GEORGE REID, M.D., D.P.H., M.O.H., Staffordshire C.C. The chair was taken by Col. T. Walter Harding. The Report of the Discussion is given at page 90 of the Journal.

#### EXAMINATIONS.

From January to April the following Examinations were held:—

##### PRACTICAL SANITARY SCIENCE.

February 13th and 14th, 1903, Plymouth. 1 Candidate.

April 3rd and 4th, 1903, Birmingham. 2 Candidates, 1 Certificate.

##### INSPECTORS OF NUISANCES.

February 13th and 14th, 1903, Plymouth. 26 Candidates, 13 Certificates.

March 6 and 7th, 1903, Edinburgh. 46 Candidates, 23 Certificates.

April 3rd and 4th, 1903, Birmingham. 73 Candidates, 36 Certificates.

##### PRACTICAL HYGIENE FOR SCHOOL TEACHERS.

January 30th, 1903, London. 1 Candidate, 1 Certificate.

CANDIDATES WHO HAVE RECEIVED CERTIFICATES,  
JANUARY—APRIL, 1903.

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*Practical Sanitary Science.*

1903, Apr. 4. MALINS, MAURICE.

*Practical Hygiene for School Teachers.*

1903, Jan. 30. LROTHWELL, ANNIE.

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*Inspectors of Nuisances.*

1903, Apr. 4. ABDD GERVAS.  
 1903, Feb. 14. ALLEN, FREDERICK NOYE.  
 1903, Apr. 4. BAKER, JONATHAN.  
 1903, Feb. 14. BALL, DAVID.  
 1903, Apr. 4. BLACK, JAMES DOUGLAS.  
 1903, Mar. 7. BLAIR, WILLIAM.  
 1903, Apr. 4. LBOND, EDITH.  
 1903, Apr. 4. BOUND, WILLIAM.  
 1903, Feb. 14. BURNARD, GEORGE.  
 1903, Mar. 7. BURNIE, THOMAS.  
 1903, Feb. 14. CANNICOTT, GEORGE EDWIN.  
 1903, Mar. 7. LCATTO, ISABELLA MARJORY.  
 1903, Apr. 4. CLARKE, HARRY CHESTER.  
 1903, Apr. 4. LCOCKIN, LUCY GRACE.  
 1903, Feb. 14. COOPER, FRED.  
 1903, Feb. 14. DAVIES, HENRY JAMES.  
 1903, Apr. 4. DUFTON, PERCY.  
 1903, Mar. 7. EGGIE, CHARLES.  
 1903, Apr. 4. EGNER, GEORGE.  
 1903, Mar. 7. GRIMSON DANIEL.  
 1903, Apr. 4. HARGREAVES, HORNER RICHMOND.  
 1903, Apr. 4. HENLEY-LEWIS, TIMOTHY WILLIAM.  
 1903, Apr. 4. HICKMAN VALENTINE RICHARD.  
 1903, Apr. 4. HIND, WILLIAM.  
 1903, Feb. 14. HOOPER, JAMES CHARLES.  
 1903, Apr. 4. HUMPHRIES, EDWARD.  
 1903, Mar. 7. IRVINE, WILLIAM.  
 1903, Mar. 7. JACK, JOHN SOMERVILLE.  
 1903, Apr. 4. JENKINS, JOHN JAMES.  
 1903, Apr. 4. JOHNS, FRANK.  
 1903, Apr. 4. JONES, HENRY WILSON.  
 1903, Apr. 4. JONES, JOHN LEWIS.  
 1903, Apr. 4. LAVER, STEPHEN JAMES.  
 1903, Apr. 4. LAW, ERNEST EUGENE.  
 1903, Mar. 7. LAWRENCE, JAMES L.  
 1903, Feb. 14. LEAB, WILLIAM FRANK.  
 1903, Apr. 4. LOFLEY, FRANCIS JOHN.

1903, Mar. 7.	LOUDEN, JOHN.
1903, Mar. 7.	LUMSDEN, ALEXANDER, JUNR.
1903, Mar. 7.	LUNN, ARCHIBALD THOMSON.
1903, Mar. 7.	MACARA, ARCHIBALD SIMPSON.
1903, Mar. 7.	MCDUGAL, JAMES LIDDLE.
1903, Mar. 7.	MCLAREN, WILLIAM.
1903, Mar. 7.	MCRUVIE, DUNCAN.
1903, Apr. 4.	MADGE, ARTHUR CECIL.
1903, Apr. 4.	MANTELL, ERNEST.
1903, Apr. 4.	MEDLEY, JAMES WM.
1903, Apr. 4.	MORTON, ROBERT NORMAN.
1903, Apr. 4.	PARRY, THOMAS SAMUEL.
1903, Mar. 7.	PATERSON, JOHN.
1903, Apr. 4.	PEET, JAMES.
1903, Mar. 7.	PETRIE, JOHN ROBERTSON.
1903, Apr. 4.	POLLARD, GEORGE.
1903, Mar. 7.	ROBERTSON, CHARLES.
1903, Apr. 4.	ROE, WILLIAM THOMAS.
1903, Feb. 14.	SAVILLE, THOMAS WILLIAM.
1903, Feb. 14.	STANBURY, SAMUEL CHARLES.
1903, Mar. 7.	STEWART, ALEXANDER MALCOLM.
1903, Apr. 4.	SUTTON, JOHN ARTHUR.
1903, Mar. 7.	THOMSON, PETER.
1903, Mar. 7.	TRAINER, RICHARD SHORT.
1903, Apr. 4.	WADE, WM. JOHN.
1903, Feb. 14.	WARD, HUGH JENNINGS.
1903, Mar. 7.	WELSH, DAVID.
1903, Feb. 14.	WEST, SAMUEL.
1903, Apr. 4.	WHITMARSH, WILLIAM.
1903, Feb. 14.	WICKETT, JOHN JAMES.
1903, Mar. 7.	WILD, WALTER.
1903, Apr. 4.	WILLCOX, ARTHUR JAMES.
1903, Apr. 4.	WRIGHT, FLORENCE ELIZA.
1903, Apr. 4.	YATES, JOSEPH.

### *Examination Questions.*

*Practical Sanitary Science.*—Plymouth, Feb. 13th and 14th, 1903.

1. What is meant by the expressions (a) Relative Humidity, (b) Dew Point? Describe a method of ascertaining relative humidity.
2. In reporting on the sanitary condition of a group of Farm Labourers' Cottages, what surrounding objects would you refer to as influencing this condition?
3. State in detail the method adopted by Public Water Companies for the purification of water from springs, rivers, &c. Explain fully the action that takes place in such method, and how the water should be stored after purification and before delivery.
4. Describe the best method of coating cast-iron pipes for water mains. What is now known of the effect produced by the coating

being badly carried out, both in regard to the delivery of water in the pipe, and also as to its affecting the water itself?

5. Write a short specification for plumber's work to a lead flat, guttering, flushings, cistern, bath and lavatory.

6. How is the amount of pollution of the air of a crowded space estimated, and why is the amount of carbonic acid gas always taken into account?

7. Sketch and describe the best kind of water-closets. Describe the best method of connection to a lead and to a cast-iron soil pipe.

8. Describe the best methods of sewage and refuse disposal in a rural district where there is no system of drainage.

*The Candidates were examined vivâ voce on the 14th.*

*Practical Sanitary Science.*—Birmingham, April 3rd and 4th, 1903.

1. Describe a rain gauge and how it should be placed. Give the volume in gallons and the weight of one inch of rain on an area of 800 square yards.

2. What is the best aspect for—

A Dining Room,  
Kitchen,

Drawing Room,  
School Class Room?

Give reasons.

3. Name three subsoils with which you are familiar, and state what precautions should be taken in erecting healthy dwellings upon each of them.

4. Describe a good method of ventilating a hospital ward with 20 beds. Illustrate your answer by a sketch.

5. How is the quantity of air space determined in a workshop? What space would be required for 16 joiners, and also a gas stove consuming 8 cubic feet of gas per hour?

6. What are the advantages and disadvantages of hot water and of steam for heating buildings? State the general arrangement of each, and the circumstances in which it would be applicable.

7. Sketch and explain a good general arrangement of drains to serve for a country mansion with stables, offices, &c.

8. Describe the arrangement of a system for the bacterial treatment of sewage, and state the conditions under which the micro-organisms discharge their functions.

*The Candidates were examined vivâ voce on the 4th.*

*Inspectors of Nuisances.*—Plymouth, February 13th and 14th, 1903.

1. What are the powers of a Local Authority with reference to underground rooms occupied as dwellings? How far are these powers extended or modified by any recent Act of Parliament?



2. Give a short summary of the special points in the laws relating to the sale of Margarine.

3. State the trades mentioned in Public Health Act, 1875, as "Offensive." Under what conditions may such a business be established?

4. You are sent to take an hour's observation of the smoke issuing from a certain factory chimney. In what form would you make your notes, as the observation proceeded, so that they could be referred to for evidence in a Court of Law?

5. Describe the Sheringham Ventilator, the Hinckes-Bird Window Block, the Tobin's Tube Ventilator, and mention the conditions under which one or more of them would be of service in a tailor's workshop 17 ft. long by 12 ft. broad by 10 ft. 6 in. high, with a fire-place at one end, two windows (each 6 ft. by 3 ft.) at one side, a door (7 ft. by 3 ft.) into a passage in the other.

6. Mention three disinfectants suitable for thoroughly disinfecting linen soiled with the excretions of a typhoid fever patient, and state the strength of each you would employ for that purpose.

7. What quantity of disinfectant would you require to fill a 4-inch drain 20 yards long? What Disinfectant would you use, and in what proportion?

8. What are the advantages and disadvantages of "wash-out" and "wash-down" Water Closets? Sketch a section of each, paying special attention to surface-area and depth of the contained water.

*The Candidates were examined vivâ voce on the 14th.*

*Inspectors of Nuisances.—Edinburgh, March 6th and 7th, 1903.*

1. Explain the duty of a Sanitary Inspector with reference to sanitary accommodation in Factories and Workshops.

2. How would you inspect the concrete and brick-work in a house in course of erection?

3. Describe briefly the appearances of:—

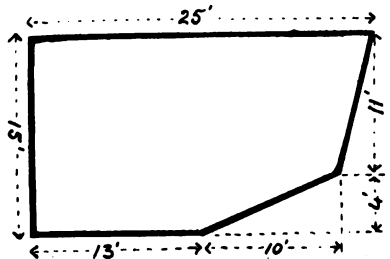
(a) Liver Fluke.

(b) Trichina Spiralis.

What animals are most commonly affected by them? How would their presence affect the fitness of the flesh for food?

4. A room in a lodging-house has the following dimensions on plan, and is 12 feet high:—

Give the area, contents, and the number of persons who may be allowed to occupy it.



5. Describe how you would prepare disinfecting solutions from (a) Corrosive Sublimate. (b) Carbolic Acid. What strength of each disinfectant would you employ to efficiently disinfect washable articles that have been in contact with a scarlet fever patient?
6. What size and description of receptacle should be used for house refuse, and how often should it be emptied?
7. Mention the Statutory and other Registers which should be kept by a Sanitary Inspector. Suggest a form for the Register of Workshops which Sanitary Authorities are required to keep under Section 131 of the Factory and Workshop Act.
8. What are the essential points to observe in house drainage to prevent danger from sewer gas?

*The Candidates were examined vivâ voce on the 7th.*

*Inspectors of Nuisances.*—Birmingham, April 3rd and 4th, 1903.

1. What is the difference in procedure in taking samples of butter under the Food and Drugs Acts and under the Margarine Act?
2. Explain the system of measurement laid down for "wide" and "narrow" canal boats. Give the minimum cubic space allowed per head in the cabin.
3. What is known as "Measly" Pork? Describe the cause of the disease and its appearances in the carcase.
4. What are the characteristics of water which has a solvent action on lead? How may the risk attending the use of such water be guarded against?
5. An inch of rain falls in the course of two hours uniformly upon a roof, the horizontal area of which is 100 ft. by 50 ft.; how many gallons would be received on it per minute?
6. Describe in detail the measures you would advocate for the disinfection of the rooms, etc., in an elementary school which has been closed on account of the prevalence of diphtheria among the scholars.
7. Draw up a list of the different Registers which would have to be kept by the following Sanitary Authorities respectively:—  
(a) Urban. (b) Rural.
8. How should the overflow of a bath on the first floor be made to communicate with the house drains? Sketch the arrangement of the overflow and waste pipe from end to end.

*The Candidates were examined vivâ voce on the 4th.*

*Practical Hygiene for School Teachers.*—London, Jan. 30th, 1903

*(Only twelve questions to be answered, the selection being left to the candidate.)*

1. At what temperature should a class room be maintained? How may fresh warm air be supplied?

2. Describe a good method of lighting a class room by day-light. Give your reasons for objecting to improper methods. What is the normal distance at which a pupil should be able to clearly read letters half-an-inch high upon the blackboard ?

3. Describe the arrangements for the ventilation of any class room with which you are acquainted, and state how you would manage these arrangements during the course of a morning's school.

4. Where a W.C. has to be placed inside a school building, describe and sketch the conditions which should be observed as regards position, ventilation, &c.

5. Mention the more important requirements to be considered in preparing a plan for a school building. Draw to a scale of 4ft. to 1 inch an outline plan of a class room for 60 children in an elementary school, showing position of door, windows, fire-place, teacher and children.

6. What provision would you recommend for supplying scholars with drinking-water during play hours ? What arrangements would you suggest for preventing the spread of contagious diseases by the use of wash-basins and towels ?

7. What, in your opinion, constitutes satisfactory provision for the domestic storage of food ? What are the dangers to be guarded against ?

8. Describe the structure and functions of the skin. To what other organs is it most closely allied, so far as its functions are concerned ?

9. What is a disinfectant ? Describe how an infected class room may be disinfected.

10. Name the first symptoms which would lead you to suspect Scarlet Fever, Measles, and Small-pox in children. What precautions should be taken where a case of infectious disease is suspected by the teacher ?

11. Explain why, on physical grounds, an interval of 5 minutes for free play or exercise between each lesson of 45 minutes helps to maintain mental health. What are the first symptoms of Chorea ? What is the most frequent cause of it ?

12. What are the first signs of physical overstrain ? What rules should be laid down and what habits should be encouraged in order to guard against it in weakly children ?

13. Describe briefly the process of breathing and also the connection between the nasal tubes and the wind pipe either as you have been able to trace them on a sheep's head or have discovered them on yourself by inhaling. Why should we inhale through the nose ? Name some of the correctives for loss of voice and throat-ache that can easily be carried out in school life.

14. What are the essentials of a good desk and seat for writing purposes ?

*The Candidate was examined vivâ voce in the evening.*

## FORTHCOMING MEETINGS.

## ANNUAL DINNER.

His Royal Highness The Duke of Cambridge, K.G., the President of the Institute, has graciously expressed his intention of presiding at the Annual Dinner of the Institute to be held at the Hotel Cecil on May 15th.

It is hoped that many members will be present on the occasion to support H.R.H. the President.

## CONGRESS AND EXHIBITION, 1903.

A Preliminary Programme of the arrangements made for the Twenty-first Congress and Exhibition of the Institute to be held at Bradford from July 7th to 11th, 1903, under the Presidency of the Rt. Hon. the Earl Stamford, follows page 60.

## EXAMINATIONS.

The following Examinations have been arranged during April to July:—

*Inspectors of Nuisances under the Public Health Act, 1875.*—

London, May 1st and 2nd.

York, June 12th and 13th.

Dublin, June 26th and 27th.

Cardiff, July 17th and 18th.

Liverpool, July 24th and 25th.

*Inspectors of Meat and other Foods.*—

London, May 8th and 9th.

Leeds, June 19th and 20th.

*Practical Hygiene for School Teachers.*—

York, June 12th and 13th.

*Practical Sanitary Science.*—London, May 1st and 2nd.

York, June 12th and 13th.

Dublin, June 26th and 27th.

Cardiff, July 17th and 18th.

Liverpool, July 24th and 25th.

## PROVINCIAL SESSIONAL MEETINGS.

The first Provincial Sessional Meeting held at Manchester was so much appreciated by the members present that the Council propose to arrange for Sessional Meetings in the following Centres during the Session 1903-4:—Birmingham, Leicester, Manchester.

## CALENDAR, APRIL TO JULY, 1903.

*As far as at present arranged.*

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m.

Exhibition Committee . . . ) Monday in the week preceding the  
Congress and Editing Committee } Council, at 4.30 p.m. & 5.30 p.m.

Museum and Library Committee Tuesday in the week preceding the Council, at 5 p.m.

Special Purposes Committee . . . ) Wednesday in the week preceding  
Finance Committee . . . ) the Council, at 4 p.m. and 5 p.m.

Examination Committee . . . Fourth Thursday in January, April, October, 5 p.m.

Parliamentary Committee . . . )  
Meat Inspectors Examination } As occasion requires.  
Committee . . . )

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 1 p.m. on Saturday.

*Council and Committee Meetings are suspended during August and Sept., and the Museum and Library are closed on public holidays.*

## APRIL.

- 1 W. Lecture to Sanitary Officers at 7 p.m. The Names and Situations of the Organs of the Body in Animals, by W. Hunting, F.R.C.V.S.
- 1 W. Inspection and Demonstration at Harrison and Barber's Knackers' Yard, Winthrop Street, Whitechapel, E., at 3 p.m., conducted by H. King Shaw.
- 3 F. Lecture to Sanitary Officers at 7 p.m. Practical Methods of Stalling and Slaughtering Animals, by W. Hunting, F.R.C.V.S.  
H. Willcox, M.D., D.P.H., on School Accidents.
- 4 S. Inspection and Demonstration at Willesden Infirmary at 3 p.m., conducted by Alfred Saxon Snell, F.R.I.B.A.
- 6 M. Lecture to Sanitary Officers at 7 p.m. Diseased Meat, with a Demonstration of Morbid Specimens collected from Meat Markets, by James King, M.R.C.V.S.
- 7 T. Lecture to Sanitary Officers at 7 p.m. The Appearance and Character of Fresh Meat, Organs, Fat, Blood, Fish, Poultry, Milk, Fruit, Vegetables, and other Food, and the conditions rendering them, or preparations of them, fit or unfit for human consumption. Preserving and Storing Meat and other Foods, by E. Petronell Manby, B.A., M.D., D.P.H.
- 8 W. Inspection and Demonstration at the Metropolitan Cattle Market, York Road, N., at 3 p.m., conducted by James King, M.R.C.V.S., Veterinary Inspector, Metropolitan Cattle Market.
- 10 F. Good Friday.
- 13 M. Bank Holiday. } Museum Closed.
- 17 F. Demonstration—Meat Inspectors' Course.  
H. Willcox, M.D., D.P.H., on Disinfection and Disinfectants.
- 20 M. Lecture to Sanitary Officers at 7 p.m. Hygiene of Byres, Lairs, Cowsheds, and Slaughter-houses, and all places where Animals destined for the supply of food are kept; and the Hygiene of Markets, Dairies, and other places where food is stored, prepared, or exposed for Sale and transported, by E. Petronell Manby, B.A., M.D., D.P.H.

- F. Lecture to Sanitary Officers at 7 p.m. The Laws, By-Laws, and Regulations affecting the Inspection and Sale of Meat and other articles of food, including their preparation and adulteration, by E. Petronell Manby, B.A., M.D., D.P.H.
- 25 S. Demonstration—Meat Inspectors' Course.

## MAY.

- 1 F. } Examination in Practical Sanitary Science and for Inspectors of  
2 S. } Nuisances, London.
- 2 S. Demonstration—Meat Inspectors' Course.
- 8 F. } Examination for Inspectors of Meat and other Foods, London.  
9 S. }
- 15 F. Institute Dinner at Hotel Cecil. H.R.H. the Duke of Cambridge, K.G., in the Chair.
- 23 S. Lecture to School Teachers in Parkes Museum, at 10 a.m., on Construction and Furnishing of Schools, by H. R. Kenwood, M.B., D.P.H.

## JUNE.

- 6 S. Lecture to School Teachers in Parkes Museum, at 10 a.m., on Construction and Furnishing of Schools by H. R. Kenwood, M.B., D.P.H.
- 12 F. } Examination in Practical Sanitary Science and for Inspectors of  
13 S. } Nuisances, and in Practical Hygiene for School Teachers, York.
- 13 S. Lecture to School Teachers in Parkes Museum, at 10 a.m., by J. Osborne Smith, F.R.I.B.A.
- 19 F. } Examination for Inspectors of Meat and other Foods, Leeds.  
20 S. }
- 20 S. Lecture to School Teachers in Parkes Museum, at 10 a.m., by J. Osborne Smith, F.R.I.B.A.
- 26 F. } Examination in Practical Sanitary Science and for Inspectors of  
27 S. } Nuisances, Dublin.
- 27 S. Lecture to School Teachers in Parkes Museum, at 10 a.m., by J. Osborne Smith, F.R.I.B.A.

## JULY.

- 7-11. Annual Congress and Exhibition at Bradford.
- 17 F. } Examination in Practical Sanitary Science and for Inspectors of  
18 S. } Nuisances, Cardiff.
- 24 F. } Examination in Practical Sanitary Science and for Inspectors of  
25 S. } Nuisances, Liverpool.

## HON. FELLOWS, FELLOWS, MEMBERS, AND ASSOCIATES

ELECTED JANUARY—MARCH, 1903.

Reg. No.      Date of Election.

### HON. FELLOWS.

1903. Feb.      ALMQUIST, Prof. Ernst, *Karolinska Institute, Stockholm. Professor of Hygiene, Karolinska Institute, Stockholm.*
1903. Feb.      BENTZEN, Dr. Stadfcibus, *Pilestradet 13, Christiania. M.O.H. for Christiania.*
1903. Mar.      BERTHENSEN, Leo, M.D., *Sergijewsovia 20, St. Petersburg. Hon. Physician to the Tzar of all the Russias; Member of the Superior Medical Council, Russian Empire.*

## FELLOWS ELECTED.

1903. Feb. HOFF, Dr. E. M., *Solvgade 84, Copenhagen K. Medical Officer of Health for Copenhagen.*
1903. Feb. LINROTH, Dr. Klas, *Svartmangaian 9, Stockholm. Formerly M.O.H. for the city of Stockholm.*
1903. Feb. MARTIN, Dr. A. J., 3, *Rue Guy Lussac, Paris, Inspecteur Général de l'Assainissement de la Ville de Paris; Membre du Comité Consultatif d'Hygiène de France.*
1903. Feb. REINCKE, Dr. Johann, *Holtzdam 26, Hamburg. M.O.H. for the city and port of Hamburg.*

## FELLOWS.

1903. Feb. BLACK, Ernest, *President Central Board of Health, Perth; Chairman West Australian Board of Examiners of the Institute.*
1903. Feb. BULSTRODE, Herbert Timbrell, M.A., M.D., D.P.H., *Medical Inspector, Local Government Board, Whitehall, S.W.*
1903. Feb. EMERSON, Sir W., F.R.I.B.A., 8, *The Sanctuary, S.W.*
1903. Feb. HAM, B. Bennett, M.D., M.R.C.S. *Chairman Queensland Board of Examiners of the Institute; Commissioner of Public Health, Queensland.*
1903. Feb. HUNTING, William, F.R.C.V.S., 16, *Trafalgar Square, Chelsea.*
1903. Feb. JONES, Charles, M.INST.C.E., *Town Hall, Ealing.*
1903. Feb. LEGGE, Thomas Morison, M.A., M.D., D.P.H., *Factory Department, Home Office, S.W.*
1903. Mar. LOWCOCK, Sidney Robert, M.INST.C.E., F.R.MET.SOC., 50, *Queen Anne's Gate, Westminster, and Temple Courts, Temple Row, Birmingham.*
1933. Feb. MANBY, Edward Petronell, B.A., M.D., D.P.H., *Medical Inspector, Local Government Board, Whitehall, S.W.*
1903. Feb. REID, Arthur Henry, F.R.I.B.A., P.O. Box 120, *Cape Town. Chairman of the Board of Examiners of the Institute for British South Africa.*
1903. Feb. STAMFORD, RT. HON. EARL, 15, *St. James's Place, S.W.*
1903. Jan. STANLEY, Arthur, M.D.LOND., D.P.H., *Medical Officer of Health, Municipal Council, Shanghai.*
1903. Feb. TATTERSALL, Charles Hermann, L.R.C.P., M.R.C.S., *Medical Officer of Health, Salford.*
1903. Feb. TIDSWELL, Frank, M.B., C.M., D.P.H. *Member and Acting Chairman of the Sydney Board of Examiners of the Institute.*
1903. Feb. WALLIS, H. Sowerby, F.R.MET.SOC., 62, *Camden Square, N.W.*
1903. Feb. WILLIAMS, C. Theodore, M.A.OXON., M.D., F.R.C.P., 2, *Upper Brook Street, W.*

1903. Mar. WILLIAMS, Herbert, M.D.LOND., M.D.STATE MEDICINE,  
*Port Sanitary Offices, Greenwich.*
1903. Feb. WOODHEAD, Prof. German Sims, M.D., F.R.C.P.,  
F.R.S.EDIN.
1903. Feb. YABBIOM, Thomas Henry, M.INST.C.E., *City Engineer,*  
*Bristol.*
1903. Feb. YOUNG, Meredith, M.D., D.P.H., M.O.H., *Town Hall,*  
*Stockport.*

## MEMBERS.

\* Passed Examination in Practical Sanitary Science.

S Passed Examination in Practical Hygiene for School Teachers.

- <sup>1633</sup> 1903. Jan. ADAMS, H. Percy, F.R.I.B.A., 28, *Woburn Place,*  
*W.C.*
- <sup>1611</sup> 1903. Feb. \*ARNALL, George, 153, 155, *St. John's Hill, S.W.*
- <sup>1631</sup> 1903. Jan. BANKS, Charles, M.D., C.M., D.P.H., 14, *Linden Road,*  
*Bedford.*
- <sup>1613</sup> 1903. Feb. \*BUTLER, Henry Lawrence, *The Manor Farm, Farn-*  
*borough.*
- <sup>1633</sup> 1903. Jan. \*CARTLIDGE, Frank, 20, *Ashville Avenue, Leeds.*
- <sup>1619</sup> 1903. Feb. CLAYTON, Thomas Morrison, M.B., B.S., B.HY., D.P.H.  
LOND., M.O.H., 3, *The Crescent, Gateshead-on-Tyne.*
- <sup>1036</sup> 1903. Jan. CONNON, Middleton, M.B., C.M., D.P.H., M.O.H., 43,  
*John Street, Montrose, N.B.*
- <sup>1636</sup> 1903. Mar. CROCKER, J. Hedley, M.D., D.P.H., *Medical Officer of*  
*Health, Richmond.*
- <sup>1637</sup> 1903. Jan. DANCE, Captain Charles Edward, R.E., *The Cones,*  
*Woodside Park.*
- <sup>1617</sup> 1903. Feb. DUNCAN, Leonard George, 79, *Avenue Road, South-*  
*ampton.*
- <sup>1634</sup> 1903. Jan. FOSTER, John William, *City Surveyor's Office, Town*  
*Hall, Bradford.*
- <sup>1639</sup> 1903. Jan. HALE, Alexander, *Municipal Engineer and Surveyor,*  
*Howrah Municipality, Bengal.*
- <sup>1618</sup> 1903. Feb. \*HALL, John T., *The Outfall, Stanwell, Staines.*
- <sup>1619</sup> 1903. Feb. HURST, George Frederick, *The Woodruffs, Coal-*  
*ville, Leicester.*
- <sup>1666</sup> 1903. Mar. JONES, Harold Cecil, *Chief Assistant Engineer, Cape*  
*Town.*
- <sup>1630</sup> 1903. Feb. LASSALLE, Chas. Francis, M.D., C.M., D.P.H., *Medical*  
*Officer, Colonial Medical Service, Trinidad, B.W.I.*
- <sup>1657</sup> 1903. Mar. LATHAM, Walter, L.R.C.P., L.R.C.S., D.P.H., *Laurel*  
*Grange, Newton-le-Willows, Lancs.*
- <sup>1638</sup> 1903. Mar. LINNEY, William Wycliffe, J.P., L.R.C.P., M.R.C.S.,  
*Medical Officer of Health, Hastings, Hawkes Bay,*  
*New Zealand. (9, Melrose Mansions, Upper Mary-*  
*lebone, W.)*
- <sup>1612</sup> 1903. Jan. MACKINLAY, Andrew Grieve, *Water Sanitary Engi-*  
*neer to Natal Government Railways, Maritzburg, S.A.*



- 1640 1903. Jan. MACNAUGHTON, William Alexander, M.D. EDIN., D.P.H.CAMB., *County Medical Officer of Health, Stonehaven, Kincardineshire.*
- 1660 1903. Mar. MASON, James Malcolm, *Chief Health Officer, Wellington, New Zealand.*
- 1659 1903. Mar. McMANUS, Leonard Strong, M.D., *Medical Officer of Health, Westwood House, St. John's Hill, Clapham Junction, S.W.*
- 1651 1903. Feb. MENTETH, W. F. Stuart, ASSOC.M.INST.C.E., *Municipal Engineer, Darjeeling, Bengal.*
- 1641 1903. Jan. MORRIS, Malcolm, F.R.C.S., 8, *Harley Street, Cavendish Square.*
- 1642 1903. Jan. PEET, Hastings FitzEdward, *City Engineer, Bloemfontein, Orange River Colony, S.A.*
- 1661 1903. Mar. PHILLIPS, Francis Barclay William, M.A., M.D., D.P.H., M.R.C.S., B.SC.CAMB., *Bedford.*
- 1662 1903. Mar. \*REES, Joseph, *Ivy Villa, St. Thomas, Swansea.*
- 1663 1903. Mar. s ROTHWELL, Miss Annie, 168, *Frederick Street, Werneth, Oldham.*
- 1652 1903. Feb. SHEEHY, Brian Edward Fitzgerald, ASSOC.M.INST.C.E.I., 57, *George Street, Limerick.*
- 1653 1903. Feb. \*SILLS, Joseph Howard, 49, *Augerstein Road, Portsmouth.*
- 1654 1903. Feb. SPERONI, Emile, *Président du Bureau des Constructions du Grand Hospital de Milan.*
- 1664 1903. Mar. STUBBS, William, ASSOC.M.INST.C.E., *Borough Surveyor and Water Engineer, Blackburn, Lancs.*
- 1665 1903. Mar. WEBB, Aston, A.R.A., 19, *Queen Anne's Gate, S.W.*
- 1655 1903. Feb. \*WOOD, William Henry, 159, *Victoria Street, Westminster.*

## ASSOCIATES.

‡ Passed Examination for Inspector of Nuisances.

# Passed Examination for Inspectors of Meat and Other Foods.

- 2804 1903. Feb. ‡ACHESON, Joseph Herbert, *Public Works Department, Central Province, India.*
- 2752 1903. Feb. ‡ADDISON, Olive Rosalie, 31, *Hillmarton Road, Holloway.*
- 2805 1903. Feb. ‡ALLEN, Percy Davies, 104, *Samuel Street, Woolwich.*
- 2753 1903. Feb. ‡ALLEN, Walter, 69, *Walkden Road, Walkden, Manchester.*
- 2806 1903. Feb. ‡APTED, Leslie John, 91, *Smithdown Road, Liverpool.*
- 2836 1903. Mar. ‡ASQUITH, Joseph Woodworth, 10, *Baker Street, Yorks.*
- 2729 1903. Jan. ‡ATKINSON, William, 2, *Hope Street, Blackhill R.S.O.*
- 2751 1903. Feb. ‡BACON, Frederick William, 56, *Strode Road; Willesden Green, N.W.*

- 2909 1903. Feb. ‡BAKER, Benjamin, 5, *Taff St., Pant Tywyll, Merthyr Tydvil.*
- 2937 1903. Mar. ‡BARKER, William John, 49, *Hood Street, Northampton.*
- 2907 1903. Feb. ‡BARRETT, Mary Alice Pauline, 117, *Castle Hill, Reading.*
- 2730 1903. Jan. BARTRAM, William Frederick, 85, *Craddock Street, Cardiff. (Cert. San. Insp. Exam. Bd.)*
- 2755 1903. Feb. ‡BEAN, William, 30, *Lawson Street, North Shields.*
- 2939 1903. Mar. ‡BEEL, Joseph Hicks, 21, *Shaftesbury Road, Gosport, Hants.*
- 2756 1903. Feb. ‡BENTON, George Richard, 3, *Eversfield Place, Chase Side, Enfield.*
- 2757 1903. Feb. ‡BERTWISTLE, James Alfred, 22, *Station Road, Padiham.*
- 2934 1903. Feb. BILHAM, Ernest Q., 264, *Westferry Road, Isle of Dogs, E. (Cert. San. Insp. Exam. Bd.)*
- 2758 1903. Feb. ‡BORGARS, John, 8, *Oval Road, Gloucester Gate, N.W.*
- 2759 1903. Feb. ‡BRADBURY, Ernest, 102, *Gresham Road, Neasden.*
- 2760 1903. Feb. ‡BROCKLESBY, George, *The Poplars, Ulverstone.*
- 2761 1903. Feb. ‡BULLEY, William John Courey, *Mount Pleasant Perranwell Station, Cornwall.*
- 2839 1903. Mar. ‡BURNARD, George, 11, *Fleet Street East, Keyham, Devonport.*
- 2762 1903. Feb. ‡BURNETT, Charles Buxton, *Ivy Cottage, Isle of Grain, near Rochester.*
- 2909 1903. Feb. ‡BURR, Henry George, *Malvern Castle Road, Newport.*
- 2810 1903. Mar. ‡CANNICOTT, George Edwin, *Angarrack, Hayle, Cornwall.*
- 2910 1903. Feb. ‡CANTLOW, Joseph Charles, 97, *Arthur Street, Ryde.*
- 2763 1903. Feb. ‡CARSWELL, Charles William, 60, *Shaftesbury Road, Gosport.*
- 2811 1903. Feb. ‡CHAMBERLAIN, Albert Edwin, 584, *Rochdale Road, Manchester.*
- 2812 1903. Feb. ‡CHATTERJIE, Noel Clement, 29, *Edith Grove, Fulham Road, S. Kensington.*
- 2764 1903. Feb. ‡CLARK, Davis Alexander, 118, *Crown Lane, Horwich.*
- 2731 1903. Jan. ‡CLARKE, William, 65, *Widdop Street, Oldham.*
- 2941 1903. Mar. ‡COKE, Alfred Powel, 76, *Mysore Road, Lavender Hill, S.W.*
- 2765 1903. Feb. ‡COLE, Henry, 47, *Buckland Road, Leyton.*
- 2766 1903. Feb. ‡COLES, Richard George, 39, *Somerset Road, Doncaster.*
- 2752 1903. Jan. ‡COOPER, Robert, 81, *Howdon Road, N. Shields.*
- 2813 1903. Feb. ‡COTTON, Enoch, 17, *Queen Street, Kidegrove, Stoke-on-Trent.*
- 2736 1903. Jan. ‡CRAWSHAW, Jonas Kenyon, 21, *Rose Terrace, Halifax.*

- 2814 1903. Feb. ‡CROOK, Felix, 45 *Knowsley Road, Bolton.*
- 2767 1903. Feb. ‡CROSTHWAITE, Ephraim Lester, 31, *Bow Lane, Preston.*
- 2768 1903. Feb. ‡DANE, Harry, *Bird Nest Cottage, Primrose Lane, Glossop.*
- 2769 1903. Feb. ‡DAVIES, Enoch Christopher, *The White House, Eye, Suffolk.*
- 2733 1903. Jan. ‡DAVIES, George, *Curwen House, Ystalyfera R.S.O.*
- 2842 1903. Mar. ‡DAVIES, Philip Isaac, 32, *High Street, Ebbw Vale, Monmouth.*
- 2770 1903. Feb. ‡DAWES, Jess Cooper, 58, *Curzon Street, Wolverhampton.*
- 2734 1903. Jan. ‡FAIRCLOUGH, William Harold, 90, *Cleveland Road, Sunderland.*
- 2813 1903. Mar. ‡FAIRHURST, John, *Howarden Cottage, Adlington, Lancs.*
- 2771 1903. Feb. ‡FALLOWS, Joseph, 102, *Beatrice Street, Bootle, Liverpool.*
- 2735 1903. Jan. ‡FIRTH, Charles, *Moorville, Drighlington, Bradford.*
- 2772 1903. Feb. ‡FISHER, Frederick Alfred, *Sanitary Department, Hong Kong.*
- 2813 1903. Mar. ‡FLACK, William, 15, *Lordship Road, Cheshunt, Herts.*
- 2811 1903. Mar. ‡FORWARD, John Samuel, 1, *Caroline Villas, Albert Road, Addlestone.*
- 2773 1903. Feb. ‡FRANCE, Charles Harold, 263, *Gedlow Lane, Wigan.*
- 2774 1903. Feb. ‡FRANKLIN, Edward James, 68, *Station Road, Church End, Finchley, N.*
- 2815 1903. Feb. ‡GARBUTT, Francis Howard, 11, *Kensington Grove, Granville Street, Hull.*
- 2816 1903. Feb. ‡GOUGH, William Vaughan, 97, *Stowell Weaste, Manchester.*
- 2740 1903. Jan. ‡GRACE, J. M., 52, *Brunswick Avenue, Hull.*
- 2816 1903. Mar. ‡HANCOCK, Thomas H., 32, *Parolles Road, Upper Holloway, N.*
- 2711 1903. Jan. ‡HANSON, Edward, 18, *Goodshaw Lane, Crawshaw-booth, Lancs.*
- 2817 1903. Mar. ‡HARPER, Frank, 38, *Semilong Road, Northampton.*
- 2742 1903. Jan. ‡HARPER, James Walter, 1, *Hewitson Terrace, Felling R.S.O.*
- 2818 1903. Mar. ‡HETHERINGTON, Joseph, *Main Street, Cockermouth.*
- 2817 1903. Feb. ‡HOCKING, John William, 8, *Faraday Street, Burnley.*
- 2833 1903. Feb. ‡HOLDEN, Frank, 120, *Bostock Street, Warrington.*
- 2773 1903. Feb. ‡HORSFALL, John Henry, 55, *Manchester Road, Bradford.*
- 2743 1903. Jan. ‡HOWARD, Henry Charles, 7, *Githa Road, Clive Vale, Hastings.*
- 2818 1903. Feb. ‡HUTTON, Benjamin, 29, *Hilbary Street, Leeds.*
- 2741 1903. Jan. ‡ILLINGWORTH, B. L., *Bath Street, Little Bowden, Market Harborough.*

- 2776 1903. Feb. ‡JACKMAN, John Robert, 38, *Tudor Road, Birkenhead.*
- 2819 1903. Mar. ‡JACKSON, John William, *Inspector of Nuisances, Brigham, near Cockermouth.*
- 2777 1903. Feb. ‡JEMMETT, Percy J., 25A, *Waterloo Road N., Wolverhampton.*
- 2778 1903. Feb. ‡JENKINSON, Francis Crofts, 29b, *High Street, Rotherham.*
- 2819 1903. Feb. ‡JOHNSTON, Charles, 6, *Arundel Street, Ashton-under-Lyne.*
- 2770 1903. Feb. ‡JONES, Evan, *Glancennen, Llandilo.*
- 2743 1903. Jan. ‡KENT, Arthur, *Town Hall, Stourbridge.*
- 2820 1903. Feb. ‡KING, James Ernest, 22, *Waterloo Road, S.E.*
- 2821 1903. Feb. ‡LAMONT, Ellen Mary, 32, *Chester Terrace, Regent's Park, London.*
- 2850 1903. Mar. ‡LEAB, William Frank, *Station Road, Ashburton, Devon.*
- 2733 1903. Jan. ‡LEATH, Thomas, *Shotley Bridge Station, Durham.*
- 2736 1903. Jan. ‡LILLY, Charles, 4, *Herbert Road, Smethwick, Birmingham.*
- 2780 1903. Feb. ‡LODDER, Thomas Charles, 30, *Courtenay Road, Walthamstow.*
- 2781 1903. Feb. ‡LORD, George Edward, 8, *Manville Road, Upper Tooting, S. W.*
- 2782 1903. Feb. ‡LOYD, Thomas Alfred Land, 18, *Bank Street, Wakefield.*
- 2822 1903. Feb. ‡MACGREGOR, William A., *Inverdene, Ballater, N.B.*
- 2823 1903. Feb. ‡MARSH, Oliver William, *Elmwood, Townley Road, Dulwich Rise, S.E.*
- 2824 1903. Feb. ‡MARSHALL, Robert, *Ruchill Hospital, Glasgow.*
- 2783 1903. Feb. ‡MATHER, Herbert, "*Sunnicot*," *Parbold, near Southport.*
- 2784 1903. Feb. ‡MCALLISTER, William Pringle, 72, *Dixon Street, Swindon.*
- 2716 1903. Jan. ‡MCBETH, William Ewart, *Castle Hill, Forfar.*
- 2851 1903. Mar. ‡MCDONALD, D., 11, *Main Street, Campbeltown, Argyle.*
- 2825 1903. Feb. ‡MEEK, Richard Horace Ponpard, 26, *Brondesbury Villas, Kilburn, N.W.*
- 2785 1903. Feb. ‡MEESON, Albert James, 2, *Farm Hill, Waltham Abbey.*
- 2852 1903. Mar. ‡MONKCOM, Henry Charles, 10, *Gordon Road, Ilford, E.*
- 2786 1903. Feb. ‡MURRAY, Bertram, 87, *Newgate Street, Morpeth.*
- 2787 1903. Feb. ‡NEWMAN, Bernard, *Holmwood, Uxbridge Road, Ealing Dean.*
- 2788 1903. Feb. ‡ORMEROD, George, *Chapel Street, Tottington, near, Bury.*
- 2826 1903. Feb. ‡PARFITT, John, *White Brooks Lane, Peasedown St. John's, Bath.*

- 2814 1903. Feb. ‡CROOK, Felix, 45 *Knowsley Road, Bolton.*
- 2767 1903. Feb. ‡CROSTHWAITE, Ephraim Lester, 31, *Bow Lane, Preston.*
- 2768 1903. Feb. ‡DANE, Harry, *Bird Nest Cottage, Primrose Lane, Glossop.*
- 2769 1903. Feb. ‡DAVIES, Enoch Christopher, *The White House, Eye, Suffolk.*
- 2733 1903. Jan. ‡DAVIES, George, *Curwen House, Ystalyfera R.S.O.*
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- 2770 1903. Feb. ‡DAWES, Jess Cooper, 58, *Curzon Street, Wolverhampton.*
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- 2771 1903. Feb. ‡FALLOWS, Joseph, 102, *Beatrice Street, Bootle, Liverpool.*
- 2739 1903. Jan. ‡FIETH, Charles, *Moorville, Drighlington, Bradford.*
- 2772 1903. Feb. ‡FISHER, Frederick Alfred, *Sanitary Department, Hong Kong.*
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- 2811 1903. Mar. ‡FORWARD, John Samuel, 1, *Caroline Villas, Albert Road, Addlestone.*
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- 2815 1903. Feb. ‡GARbutt, Francis Howard, 11, *Kensington Grove, Granville Street, Hull.*
- 2810 1903. Feb. ‡GOUGH, William Vaughan, 97, *Stowell Weaste, Manchester.*
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- 2817 1903. Mar. ‡HARPER, Frank, 38, *Semilong Road, Northampton.*
- 2742 1903. Jan. ‡HARPER, James Walter, 1, *Hewitson Terrace, Felling R.S.O.*
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- 2817 1903. Feb. ‡HOCKING, John William, 8, *Faraday Street, Burnley.*
- 2833 1903. Feb. ‡HOLDEN, Frank, 120, *Bostock Street, Warrington.*
- 2773 1903. Feb. ‡HORSFALL, John Henry, 55, *Manchester Road, Bradford.*
- 2743 1903. Jan. ‡HOWARD, Henry Charles, 7, *Githa Road, Clive Vale, Hastings.*
- 2818 1903. Feb. ‡HUTTON, Benjamin, 29, *Hilbary Street, Leeds.*
- 2741 1903. Jan. ‡ILLINGWORTH, B. L., *Bath Street, Little Bowden, Market Harborough.*

- 2776 1903. Feb. ‡JACKMAN, John Robert, 38, *Tudor Road, Birkenhead.*
- 2919 1903. Mar. ‡JACKSON, John William, *Inspector of Nuisances, Brigham, near Cockermouth.*
- 2777 1903. Feb. ‡JEMMETT, Percy J., 25A, *Waterloo Road N., Wolverhampton.*
- 2774 1903. Feb. ‡JENKINSON, Francis Crofts, 29b, *High Street, Rotherham.*
- 2419 1903. Feb. ‡JOHNSTON, Charles, 6, *Arundel Street, Ashton-under-Lyne.*
- 2779 1903. Feb. ‡JONES, Evan, *Glancennen, Llandilo.*
- 2743 1903. Jan. ‡KENT, Arthur, *Town Hall, Stourbridge.*
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- 2821 1903. Feb. ‡LAMONT, Ellen Mary, 32, *Chester Terrace, Regent's Park, London.*
- 2850 1903. Mar. ‡LEAB, William Frank, *Station Road, Ashburton, Devon.*
- 2733 1903. Jan. ‡LEATH, Thomas, *Shotley Bridge Station, Durham.*
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- 2782 1903. Feb. ‡LOYD, Thomas Alfred Land, 18, *Bank Street, Wakefield.*
- 2822 1903. Feb. ‡MACGREGOR, William A., *Inverdene, Ballater, N.B.*
- 2823 1903. Feb. ‡MARSH, Oliver William, *Elmwood, Townley Road, Dulwich Rise, S.E.*
- 2824 1903. Feb. ‡MARSHALL, Robert, *Ruchill Hospital, Glasgow.*
- 2783 1903. Feb. ‡MATHER, Herbert, "*Sunnicot*," *Parbold, near Southport.*
- 2784 1903. Feb. ‡MCALLISTER, William Pringle, 72, *Dixon Street, Swindon.*
- 2716 1903. Jan. ‡MCBETH, William Ewart, *Castle Hill, Forfar.*
- 2851 1903. Mar. ‡MCDONALD, D., 11, *Main Street, Campbeltown, Argyll.*
- 2825 1903. Feb. ‡MEEK, Richard Horace Ponpard, 26, *Brondesbury Villas, Kilburn, N.W.*
- 2745 1903. Feb. ‡MEESON, Albert James, 2, *Farm Hill, Waltham Abbey.*
- 2852 1903. Mar. ‡MONKCOM, Henry Charles, 10, *Gordon Road, Ilford, E.*
- 2786 1903. Feb. ‡MURRAY, Bertram, 87, *Newgate Street, Morpeth.*
- 2787 1903. Feb. ‡NEWMAN, Bernard, *Holmwood, Uxbridge Road, Ealing Dean.*
- 2788 1903. Feb. ‡ORMEROD, George, *Chapel Street, Tottington, near, Bury.*
- 2826 1903. Feb. ‡PARFITT, John, *White Brooks Lane, Peasedown St. John's, Bath.*

- 2789 1903. Feb. ‡PATTISON, Archibald Waterhouse, *Town Hall, Waterloo, near Liverpool.*
- 2827 1903. Feb. ‡PRESTON, Frank Henry, 42, *Chesilton Road, Fulham, S.W.*
- 2790 1903. Feb. ‡RANDLE, George Thomas, *Public Dispensary, Catherine Street, Plymouth.*
- 2791 1903. Feb. ‡ROSS, George, 7, *Market Street, Altrincham, Cheshire.*
- 2828 1903. Feb. ‡SCOTT, Thomas, 145, *Chapel Street, Dalton-in-Furness.*
- 2792 1903. Feb. ‡SHAW, Arthur L., 247, *Bolton Road, Elton, Bury.*
- 2747 1903. Jan. ‡SMITH, Stanley Addison, *Sunnyside, Monkseaton, Northumberland.*
- 2853 1903. Mar. ‡SPENCER, Norman Selwyn, 16, *Castle Garth, Kendal.*
- 2793 1903. Feb. ‡STEVENS, Arthur, *Hazel Bank Farm, Marple.*
- 2794 1903. Feb. ‡STONES, James, *County Offices, Wealdstone, Middlesex.*
- 2795 1903. Feb. ‡STRONG, Dorothy A., *Tow Law, Durham.*
- 2796 1903. Feb. ‡TAYLOR, William, 49, *Moorhey Street, Oldham.*
- 2829 1903. Feb. ‡THAKE, H. Brow, *Lily House, Haverhill.*
- 2830 1903. Feb. ‡TURNER, Alfred Victor, 90, *Longhidge Street, Battersea, S.W.*
- 2797 1903. Feb. ‡VAN TREIGHT, Charles, 42, *Bland Street, Ashfold, Cumberland, N.S.W.*
- 2798 1903. Feb. ‡VINCENT, Charles J., *Glengariff, Sutherland Road, Croydon.*
- 2854 1903. Mar. ‡VOBE, Walter Cullen, *Roselea, Abbey Wood, S.E.*
- 2737 1903. Jan. ‡WALKER, Joseph, 28, *Joicey Terrace, Oxhill, West Stanley, Durham.*
- 2718 1903. Jan. ‡WALTERS, Joseph, *Guildford Lane, Danesmoor, Chesterfield.*
- 2719 1903. Jan. ‡WATSON, Harry, 151, *Albert Road, Middlesbrough.*
- 2799 1903. Feb. ‡WELSH, William, *Cleadon Village, near Sunderland.*
- 2855 1903. Mar. ‡WEST, Samuel, 30, *Lyndale Avenue, Bridgwater.*
- 2800 1903. Feb. ‡WHEELER, Robert John, *Lynton Cottage, High Park, Ryde, Isle of Wight.*
- 2801 1903. Feb. ‡WHITELEY, Thomas, *Town Hall, Rochdale.*
- 2750 1903. Jan. ‡WHITTAKER, E. E., 27, *Crescent Road, Cheetham Hill, Manchester.*
- 2751 1903. Jan. ‡WILKINSON, Fred., 296, *Grimesthorpe Road, Sheffield.*
- 2832 1903. Feb. ‡WILLIAMS, Henry Gillen, *Union Workhouse, Swansea.*
- 2802 1903. Feb. ‡WILSON, Arthur S., 52, *Allen Road, Wolverhampton.*
- 2833 1903. Feb. ‡WOODWARD, Lilian Margaret, 23, *Fairmile Avenue, Streatham, S.W.*
- 2803 1903. Feb. ‡YORK, Frederick Owen, *Kibworth, Harcourt, Leicesters.*

## CONTRIBUTIONS AND ADDITIONS TO LIBRARY

DURING JANUARY—MARCH, 1903.

\* \* For publications of Societies and Institutions, &c., see under  
"Academies."

## ACADEMIES (AMERICAN).

**Washington.** *American Institute of Architects.* Quarterly Bulletin,  
July, 1902; Vol. III., No. 2. 30 pp., 8vo. Washington, 1902.  
*The Institute.*

## ACADEMIES (BRITISH).

**London.** *Institution of Civil Engineers.* Minutes of Proceedings,  
with other Selected and Abstracted Papers; Vol. CL., 1902.  
575 pp. (Plates), 8vo. London, 1902.  
——— Charter, Supplemental Charters, By-Laws, and List of  
Members. 244 pp., 8vo. London, 1902. *The Institution.*  
——— *Institution of Mechanical Engineers.* Proceedings, July, 1902,  
Newcastle Meeting. 254 pp. (Plates), 8vo. London, 1902.  
*The Institution.*

**Aberdeen.** Report on Notification of Measles and Whooping  
Cough, by the Medical Officer of Health. 12 pp., 8vo. Aberdeen,  
1903. *M. Hay, M.D.*

**Barmen-Elberfeld Entwässerung.** Reise Bericht der zum Studium  
der Klärung der Abwässer nach England, entsandten Commission.  
94 pp., fcp. Elberfeld, 1902. *W. H. Lindley.*

**Biggs, C., A.I.E.E.** Electric Traction on Street Tramways. 24 pp.,  
8vo. London, 1902. *The Publishers (S. Edgecumbe Rogers).*

**Board of Agriculture.** Leaflet No. 74: The Purchase of Feeding  
Stuffs. Leaflet No. 75: Root-Knot Disease in Cucumbers and  
Tomatoes. Leaflet No. 76: Cucumber and Melon Leaf Blotch.  
Leaflet No. 97: Finger and Toe in Turnips. Leaflet No. 78:  
Liver Disease of Poultry. 8vo. London, 1902.

——— Agricultural Returns, 1902 (Produce of Crops). Tables  
showing the Total Produce and Yield per acre of the Principal  
Crops in each County of Great Britain, with Summaries of the  
United Kingdom. 33 pp., 8vo. London, 1903.

——— The Use of Artificial Manure. Leaflet No. 80. 12 pp., 8vo.  
London, 1903.

——— A Substitute for Dishorning. Leaflet No. 81. 2 pp., 8vo.  
London, 1903. *The Board.*

**Bruxelles.** Rapport Annuel; Hygiène; Demographie; Service de  
Santé; Statistique Médicale. Année, 1901. Extrait du rapport  
présenté au Conseil Communal en séance du 6 Octobre, 1902, par le



- Collège des Bourgemestres et Echevins. 115 pp., 8vo. Bruxelles, 1902. *Health Department.*
- Butler, Miss Mary Marshall.** Sanitary Inspection. 16 pp., 8vo. Albany, 1902. *The Authoress.*
- Cardiff and County Public Health Laboratory.** Third Annual Report of the Bacteriologist, William G. Savage, D.P.H., B.Sc., M.D.Lond., for the year 1902. 8 pp., 4to. Cardiff, 1903. *The Author.*
- Chiswick U.D.C.** Report of Sanitary Inspector upon Sewer and House Drain Ventilation. 5 pp., fcp. Chiswick, 1903. *J. H. Clarke.*
- Clay, Felix, B.A.** Modern School Buildings, Elementary and Secondary: a Treatise on the Planning and Arrangement and Fitting of Day and Boarding Schools, having special regard to School Discipline, Organisation, and Educational requirements, with special Chapters on the Treatment of Class-rooms, Lighting, Warming, Ventilation, and Sanitation. 459 pp., 4to. London, 1902. *The Author.*
- Cowan, C. F.** Ingenieria Sanitaria. 43 pp., 8vo. Habana, 1902. *The Author.*
- Crichton-Browne, Sir James, M.D., LL.D., F.R.S.** Some Food Dangers. New Year's Address given before the Sanitary Inspectors' Association at London, January, 1903. 37 pp., 8vo, London, 1903. *The Publishers (Messrs. P. S. King & Son).*
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- Hamburg.** Die Gesundheitsverhältnisse Hamburgs in neunzehnten Jahrhundert mit 76 Abbildungen im Text und 3 Tafeln. 322 pp., 4to. Hamburg, 1902. *J. J. Reincke, Medicinalrath.*
- Hopkinson, J., F.L.S., F.G.S., F.R.Met.Soc.** Water and Water Supply, with special reference to the Supply of London from the chalk of Hertfordshire. 32 pp., 8vo. Hertford, 1891.
- Hertfordshire Rainfall, Percolation, and Evaporation. 40 pp., 8vo. Hertford, 1896.
- The Relative Advantages of Hard and Soft Water, with special reference to the supply of Watford. 14 pp., 8vo. Hertford, 1895. *The Author.*
- Ireland.** Calendar of the Pharmaceutical Society, 1903; Vol. XXVII. 219 pp., 8vo. Dublin, 1903. *The Society.*
- Latham, A., M.A., M.D.(Oxon.), M.A.(Cantab.),** with **West, A. William.** The Prize Essay on the Erection of a Sanatorium for the treatment of Tuberculosis in England; together with a Preface by the Chairman of His Majesty's Advisory Committee, a number of Appendices, Illustrative Plans, and a Bibliography. 254 pp., 8vo. London, 1903. *Purchased.*
- Latham, Frank, M.Inst.C.E.I.** The Construction of Roads, Paths, and Sea Defences, with portions relating to Private Street Repairs, Specification Clauses, Prices for Estimating, and Engineers' Replies to Queries. 221 pp., 8vo. London, 1903. *The Author.*

- Lindley, W. H.** Barmen-Elberfeld Entwässerung Erläuterungs-Bericht zum Projekt einer Klärungs-Anlage für die Abwässer von Barmen-Elberfeld auf dem Gute Buchenhofen. 24 pp., fcp. Elberfeld, 1902. *The Author.*
- Local Government Board.** Dr. E. Petronell Manby's Report on the Prevalence of Diphtheria in the Risborough Registration Sub-District, forming part of the Wycombe Rural District. 12 pp., fcap. London, 1903.
- Dr. G. S. Buchanan's Report on Epidemic of Small-pox in the Union of Orsett, 1901-2. 37 pp., fcap. London, 1903.
- Thirteenth Annual Report, 1900-01: Supplement in continuation of the Report of the Medical Officer for 1900-01. On Lead Poisoning and Water Supplies. 224 pp., 8vo. London, 1903. *W. H. Power, C.B., F.R.S.*
- London, City of.** Regulations of Common Lodging Houses, 1902. 10 pp., 8vo. London, 1902. *Wm. Collingridge, M.A., M.D.*
- London County Council.** Examination of the Atmosphere of the Central London Railway: Reports by the Chemist and Medical Officer of Health, to which is appended a Report by Dr. Andrewes. 21 pp., fcp. London, 1903. *Frank Clowes, D.Sc.*
- Report by the Medical Officer of Health as to Houses let in lodgings. 5 pp., fcap. London, 1903. *Shirley F. Murphy, M.O.H.*

#### MEDICAL OFFICERS OF HEALTH AND OTHER SANITARY REPORTS.

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|---|---|
| <b>Aberdeen,</b> December, 1902, to<br>February, 1903 .. ..   | } <i>Matthew Hay, M.D.</i>                    |
| <b>Acton</b> .. ..  |   |
| <b>Batley</b> (Insp. of Nuisances) ..   | <i>G. A. Gaving Simpson, M.R.C.S., L.S.A.</i> |
| <b>Belchamp R.D.C.,</b> 1902 ..   | <i>S. Allpress, Assoc.San.Inst.</i>           |
| <b>Bourne,</b> 1902 .. ..   | <i>J. W. Burdwood.</i>                        |
| <b>Brentwood,</b> 1902 .. ..  | <i>Samuel Frazer, L.R.C.P., L.R.C.S.</i>      |
| <b>Chelmsford R.D.C.,</b> 1902 ..   | <i>J. C. Thresh, D.Sc., M.D., D.P.H.</i>      |
| <b>Clayton-le-Moors,</b> 1902 ..  | <i>L. Tattersall, M.R.C.S., L.S.A.</i>        |
| <b>Crewe,</b> 1902 .. ..  | <i>Andrew Laird, M.D., D.P.H.</i>             |
| <b>Finsbury,</b> 1902 .. ..   | <i>George Newman, M.D.</i>                    |
| <b>Glossop,</b> 1902 .. ..  | <i>Duncan Mackenzie, M.D.</i>                 |
| <b>Hamburg,</b> 1903 .. ..  | <i>Dr. Reincke.</i>                           |
| <b>Hereford,</b> 1902 .. ..   | <i>H. Cecil Moore, M.R.C.S., L.S.A.</i>       |
| <b>Huddersfield</b> (4th Quarter),<br>1902 .. ..  | <i>S. G. Moore, M.B., D.P.H.</i>              |
| <b>Hunslet R.D.C.,</b> 1902 ..  | <i>J. Buck, M.O.H.</i>                        |
| <b>Ilfracombe,</b> 1902 .. ..   | <i>Edwyn J. Slade-King, M.D., D.P.H.</i>      |
| <b>London (City of),</b> weeks end-<br>ing 17th January, 1903, and<br>24th February, 1903, and<br>for March, 1903 .. .. | } <i>W. Collingridge, M.A., M.D., D.P.H.</i>  |
|   |   |

<b>Maldon, 1902</b>	.. ..	<i>J. C. Thresh, D.Sc., M.D., D.P.H.</i>
<b>New Windsor</b>	.. ..	<i>E. Casey, M.O.H.</i>
<b>Reigate, 1901</b>	.. ..	<i>J. P. Humphery, Assoc.San.Inst.</i>
<b>Richmond, 1902</b>	.. ..	<i>J. H. Crocker, M.D.</i>
<b>River Tyne Port Sanitary</b>		
<b>Authority, 1902</b>	.. ..	<i>W. E. Harker, M.D., M.O.H.</i>
<b>Sutton Coldfield, 1902</b>	.. ..	<i>A. Bostock Hill, M.Sc., M.D., D.P.H.</i>
<b>Wandsworth, 1901</b>	.. ..	<i>The Town Clerk.</i>
<b>West Bromwich, 1902</b>	.. ..	<i>Herbert Manley, M.A., M.D., D.P.H.</i>
<b>Wimbledon, 1902</b>	.. ..	<i>E. Pocklington, M.R.C.S., M.O.H.</i>

**Nottingham.** The Meteorology of Nottingham for the year 1902, by Arthur Brown, M.Inst.C.E., F.R.Met.Soc., and P. Boobyer, M.D. Fcp. Nottingham, 1903. *The Authors.*

**Ottawa.** *Inland Revenue Department.* Bulletins: No. 82, Unfermented Grape Juice; No. 83, Lime Juice and Catsup; No. 84, Cereal Breakfast Foods. 55 pp., 8vo. Ottawa, 1902.

*Thos. McFarlane.*

**Poore, Geo. Vivian, M.D., F.R.C.P.** Colonial and Camp Sanitation. 43 pp., 8vo. London, 1903.

*The Publishers (Longmans, Green & Co.).*

**Rogers, S. Edgcombe, Editor.** The Local Government Annual and Official Directory, 1903, officially corrected. 266 pp., 8vo. London, 1903.

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**Roma.** *Ministero dell' Interno.* Ispettorato Generale della Sanità Publica. Bolletino Sanitario del Mese di Maggio, 1902. 140 pp., 4to. Rome, 1902.

*R. Santoliquido.*

**Sandlands, J. P., M.A.** Sanitation, Personal and Public. A Book for County, District, and Parish Councillors. 198 pp., 8vo. London, 1902.

*The Author.*

**Saxony.** Dreiuunddreissigster Jahresbericht des Königl. Landes-Medicinal-Collegiums über das Medicinalwesen im Königreiche Sachsen auf das Jahr, 1901. 302 pp., 8vo. Leipzig, 1902.

*Dr. Buschbeck.*

**Schweiz.** Statistisches Jahrbuch Herausgegeben vom Statistischen Bureau des Eidg. Departments des Innern. Elfter Jahrgang, 1902. 341 pp., 8vo. Bern, 1902.

*The Bureau.*

**Suisse.** Mouvement de la Population de la Suisse pendant l'année, 1901. 32 pp., 4to. Berne, 1902.

*Le Bureau de Statistique.*

**United States of America.** Index Catalogue of the Library of the Surgeon-General's Office, United States Army. Second Series, Vol. VII. Hernia—Inquiry. 1,003 pp., 4to. Washington, 1902.

*The Surgeon-General.*

——— Report of the Commissioner of Education. 1216 pp., 4to. Washington, 1902.

*The Board.*

**West Riding County Council.** Report of the County Medical Officer upon the Sanitary Condition of the Bowland Rural District. 38 pp., fcp. Wakefield, 1903.

*J. R. Kaye, M.B., D.P.H.*

- Whitaker, W., B.A., F.R.S., F.G.S., Assoc.Inst.C.E.** Kentish Wells and Deep Borings in the Neighbourhood of Canterbury. 13 pp., 8vo. *The Author.*
- Young, Meredith, M.D., D.P.H., D.Sc.** Practical Hints on Isolation Hospital Construction. 11 pp., 8vo. 1903. *The Author.*

In addition to the books presented to the Library, the following works connected with Sanitary Science have been published during the quarter:—

- Abbott, A. C., M.D.** The Principles of Bacteriology: A Practical Manual for Students and Physicians. London: H. K. Lewis.
- Colton-Buel, P.** The Human Body; its Personal Hygiene and Practical Physiology. London: The Scientific Press.
- Dumsday, W. H.** (Edited by). Local Government Law and Legislation. London: Hadden, Best & Co.
- Duckworth, L.** The Law Relating to Gas, Water and Electric Lighting. Second Edition. Effingham Wilson.
- Eyre, J. W. H., M.D., M.S., F.R.S.** The Elements of Bacteriological Technique. Philadelphia and London: W. B. Saunders & Co.
- Frankland, Mrs. Percy F.** Bacteria in Daily Life. London: Longmans, Green & Co.
- Hennell, T.** The Metropolis Water Act, 1902. E. & F. N. Spon.
- Hutchins, B. L., and Harrison, A.** A History of Factory Legislation. London: P. S. King & Son.
- Latham, A., M.A., M.D.** The Diagnosis and Modern Treatment of Pulmonary Consumption. London: Ballière, Tindall & Cox.
- Muir, Robert, M.A., M.D., F.R.C.P., and Ritchie, J., M.A., M.D., B.Sc.** Manual of Bacteriology. Third Edition. Edinburgh and London: Young J. Pentland.
- Rawlinson, J. P., L.L.M., K.C., and Johnston, J. A., B.A.** Rawlinson's Municipal Corporation Acts. Ninth Edition. London, 1903: Sweet & Maxwell.
- Swanson, T. W., Assoc.San.Inst., Mem.San.Assoc.** Handbook of Scotch Sanitary Law. London: Sanitary Publishing Co.
- Thomas, J. W., F.I.C., F.C.S.** The Ventilation, Heating, and Management of Churches and Public Buildings. London: Longmans, Green & Co.

## CIRCULARS AND ORDERS OF THE LOCAL GOVERNMENT BOARD.

*ISSUED SEPTEMBER, 1902, TO MARCH, 1903.*

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Small-pox in Casual Wards and Workhouses.  
 Small-pox Casual Paupers.  
 Regulations as to Cholera, Yellow Fever, and Plague. Amending  
 Order to all Port Sanitary Authorities.  
 Memoranda as to Annual Reports of Medical Officers of Health,  
 London and Provinces.  
 Hop Picking.  
 Provinces: Small-pox.  
 Provinces: Small-pox, Vaccination, and Re-vaccination.  
 Registers of Cases in Small-pox Hospitals.  
 Precautions against Introduction of Cholera.  
 Qualification of Sanitary Inspectors.  
 The Housing of the Working Classes Act, 1890. Memorandum  
 with respect to the Provision and Arrangement of Dwellings.  
 Memorandum on the steps specially requisite to be taken in places  
 where Small-pox is prevalent.  
 Memorandum on Re-vaccination.  
 Further Precautions against the Introduction of Plague.

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## EXHIBITS ADDED TO THE MUSEUM.

*JANUARY TO MARCH, 1903.*

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<b>Model of Bath.</b>	<i>Standard Sanitary Manufacturing Co.</i>
<b>Models of Baths, Sinks &amp; Lavatories.</b>	<i>Knowles &amp; Co., King's Cross.</i>
<b>Aneroid Barometer.</b>	<i>Purchased.</i>
<b>Model Well Grate.</b>	} <i>Blundell, Spence &amp; Co., Hull.</i>
<b>Sample Enamelling for Damp Walls.</b>	
<b>Davis' Gas Cooking Stove and Griller.</b>	
<b>Offa Ventilator.</b>	

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## DELEGATES' EXPENSES IN ATTENDING CONGRESS.

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*The Council have addressed the following letter to the Local Government Board on the subject of Expenses of Delegates attending Sanitary Congresses.*

*March 26th, 1903.*

*To the Secretary, Local Government Board.*

SIR,—It has been represented to the Council of The Sanitary Institute that some Local Authorities find a difficulty in appointing delegates to attend the Annual Provincial Congress of the Institute, owing to the fact that the expenses incurred by such delegates are disallowed by the Local Government Board Auditor. In response to these representations, the Council desire to lay before the Local Government Board the following points:—

1. That the attendance of delegates at these Congresses is a definite and distinct assistance to Local Authorities in Public Health Administration.

- (a) Because they have the opportunity of hearing the latest views with regard to such subjects as the Housing of the Working Classes, the Dealing with Infection, Town House Sanitation, and General Sanitary Administration; and further, they have the opportunity of hearing these views discussed and criticised by the prominent members of the professions of Engineering, Architecture, and Public Health.
- (b) Because a Special Conference of Municipal Authorities is arranged, at which delegates have an opportunity of conferring with one another on the working of measures adopted, and the special problem in their own locality.
- (c) Because a full record of the papers and discussions is prepared and sent to all the delegates so that they may have for reference the matters brought forward at the meetings.
- (d) Because the Exhibitions of Sanitary apparatus and appliances held in connection with the Congresses afford opportunities for examining and gaining information with regard to Sanitary apparatus manufactured in different parts of the country, the collection of which information is in many cases absolutely necessary for schemes under consideration in the various towns, and would involve a large expenditure if a deputation were sent to different parts of the country to obtain the desired information. At the Exhibition the delegates see all the apparatus collected together, which gives an opportunity for comparison that would not arise in the case of a separate visit.



## GENERAL NOTES.

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THE ELEVENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY will be held at Brussels on September 8th, 1903, under the Patronage of the King of Belgium and H.R.H. Prince Albert. The Sections will be as follows:—

*First Section*—Bacteriology. Microbiology and Parasitology applied to Hygiene.

*Second Section*—Elementary Hygiene. Chemical and Veterinary Science applied to Hygiene.

*Third Section*—Sanitary Technology. Engineering and Architectural Science applied to Hygiene.

*Fourth Section*—Industrial and Professional Hygiene.

*Fifth Section*—Hygiene Conveyances and Transports.

*Sixth Section*—Administrative Hygiene. Prophylaxy of Contagious Diseases. Workmen's Houses. Infantile Hygiene.

*Seventh Section*—Colonial Hygiene.

*Secretary-General,*

Professor D. F. PUTZEYS,

1, Rue Forgeur, Liege.

THE FIFTH INTERNATIONAL CONGRESS FOR APPLIED CHEMISTRY will be held from June 2nd till June 8th, 1903, in Berlin.

The meetings of the Congress will take place in the Imperial Parliament (Reichstagsgebäude), which the President, Count Ballestein, has kindly placed at the disposal of the Congress.

The General Meetings will be held in the Large Hall of the building. In these meetings addresses on subjects of general interest will be delivered by representatives of the science, and topics which concern the Congress will be discussed.

The members' subscription will be twenty marks.

*Secretary,*

Office of the Congress,

21, Marchstrasse,

Charlottenburg.

THE THIRD INTERNATIONAL CONGRESS OF THALASSOTHERAPY, under the Patronage of the Minister of Public Instruction, and M. Albert Robin, Member of the Academy of Medicine, will be held at Biarritz on 19th and 21st April, 1903.

*Secretary-General,*

Dr. LOBIT,

Biarritz.

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## PARKES MUSEUM NEW BUILDING AND ENDOWMENT FUND.

### PRELIMINARY LIST OF DONATIONS.

#### *Amounts already reported :*

					£	s.	d.
Capital allotted	..	..	..	..	7,000	0	0
Vice-Presidents	..	..	..	..	258	0	0
Members of Council	..	..	..	..	95	6	0
Members and others	..	..	..	..	621	9	6
<i>To the Douglas Galton Gallery</i>	..	..	..	..	145	10	0
					<hr/> 8,120 5 6		

#### *Additional amounts since last Report :*

Capital allotted in 1903	..	..	..	..	1,000	0	0
Mr. E. W. Fritchley	..	..	..	..	1	1	0
Mr. J. de Lanoy Dunk	..	..	..	..	2	2	0
Mr. J. Walker	..	..	..	..	0	10	6
Mr. R. A. Powell	..	..	..	..	0	19	0
Mr. D. Walker	..	..	..	..	0	10	0
					<hr/> £9,125 8 0 <hr/> <hr/>		

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# **PRELIMINARY PROGRAMME**

OF THE

## **TWENTY-FIRST CONGRESS**

TO BE HELD AT

### **BRADFORD,**

From JULY 7th to 11th, 1903.

THE  
TWENTY-FIRST CONGRESS, 1903,

WILL BE HELD AT

BRADFORD,

*From JULY 6th to 11th.*

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GENERAL ARRANGEMENTS.

**ADDRESSES AND LECTURES.**

President's Inaugural Address.

Lecture to the Congress.

Popular Lecture.

**SECTIONS.**

A.—Section I. Sanitary Science and Preventive Medicine.

B.—Section II. Engineering and Architecture.

C.—Section III. Chemistry, Physics, and Biology.

**CONFERENCES.**

D.—Of Municipal Representatives.

E.—On Industrial Hygiene.

F.—Of Medical Officers of Health.

G.—Of Engineers and Surveyors to County and Sanitary Authorities.

H.—Of Veterinary Inspectors.

J.—Of Sanitary Inspectors.

K.—Of Ladies on Hygiene.

L.—On the Hygiene of School Life.

**EXHIBITION.**

An Exhibition of Apparatus and Appliances relating to Health and of Domestic use will be held in connection with the Congress.

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**PAPERS AND DISCUSSIONS.**

The Council invite Papers on subjects relating to Health and Sanitary Science. Papers are limited to about 3,000 words. Accepted

papers are, as far as possible, printed and distributed before they are to be discussed, and at the Meeting they are taken as read. Authors are allowed five minutes to introduce the main arguments of the paper before the discussion begins. A short abstract must accompany every Paper, both for the convenience of the Press at the Congress and for insertion, subject to the approval of the Council, in the Journal of the Institute, should it not be deemed desirable to publish the paper *in extenso*. No previously published Paper can be accepted. The acceptance of Papers, and the days on which they are to be discussed, are determined by the Council before the beginning of the Meeting. The Council reserve the right of refusing any Papers sent in; and in the case of those accepted, the discussion of them must depend on the time at the disposal of the Meeting. Papers accepted for the Congress cannot be published by the Authors, except by permission of the Council. The Council reserve to themselves the privilege of printing any Paper, either wholly or in part, or of refraining from the publication thereof, if they see fit.

The Addresses and Papers or Abstracts thereof are as far as possible printed by the Institute in London before the meeting of the Congress, and copies can be obtained in the Reception Room. Authors should forward their manuscript by post as early as possible, and in any case not later than June 9th, addressed to the Secretary, Sanitary Institute, Margaret Street, London, W.

### RECEPTION ROOM AND PLACES OF MEETING.

A Reception Room will be opened at THE MUNICIPAL TECHNICAL COLLEGE, on MONDAY, JULY 6TH, at 12 NOON, and on the following days at 9 A.M., for the issue of all Tickets in connection with the Congress. The Reception Room will be available for Reading, Writing, and Conversation.

The Inaugural Address of the President and the Lecture to the Congress will be given in THE MUNICIPAL TECHNICAL COLLEGE.

The Sectional Meetings, General Meetings, and Conferences will be held in THE

The Popular Lecture will be given in THE

### HOTEL AND LODGING ACCOMMODATION, AND TRAVELLING ARRANGEMENTS

Will be determined by the Local Committee, and information relating to the same may be obtained from the Local Secretary, and from the Secretary of the Institute.

### TICKETS.

Fellows, Members, and Associates of the Institute, are supplied with Tickets for the Congress on application to the Secretary before the Congress, or may be obtained at the Reception Room during the Meeting.

To those not connected with the Institute, Congress Tickets will be issued, entitling the holder to the use of the Reception Room, to admission to the Presidential and other Addresses, to all Meetings, to the Exhibition of the Institute, to any Conversazione given by the Institute, and copies of the Quarterly Journal of the Institute containing the proceedings of the Congress. The price of the Congress Tickets is One Guinea each. These Tickets may be obtained at the Office of the Local Secretary at THE TOWN HALL, BRADFORD, or at the Offices of THE INSTITUTE, 72, Margaret Street, London, W.

### EXCURSIONS.

Particulars of these will be published in the local Programme, and Tickets and List of Places to be visited can be obtained at the Reception Room during the Meeting.

### RAILWAY ARRANGEMENTS.

The Railway Companies have decided to issue return Tickets to Bradford at a single fare and a quarter, available from JUNE 29TH to JULY 11TH inclusive. Certificates necessary to obtain this reduction will be supplied with Congress Tickets.

During the meeting, return Tickets at a single fare and a quarter for the double journey will be issued to members of the Congress, on production of their Congress Tickets, from Bradford to stations not more than fifty miles distant—(minimum charge 1s.).

## Officers of the Congress.

### President.

THE RIGHT HONBLE. THE EARL STAMFORD.

### Vice-Presidents.

His Grace The ARCHBISHOP OF YORK.  
The Rt. Hon. the MARQUIS OF RIPON.  
The Rt. Hon. EARL OF SCARBOROUGH,  
Lord Lieutenant of the West Riding.  
The Rt. Hon. the LORD MASHAM.  
The Rt. Hon. the LORD VISCOUNT  
MOUNTGARRET.  
The Rt. Hon. The LORD ALLESTON.  
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Wade, J.P.).  
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(John Ward, J.P.).  
The Rt. Hon. the LORD MAYOR OF SHEF-  
FIELD (J. Wycliffe Wilson, J.P.).  
The Rt. Hon. the LORD MAYOR OF YORK  
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Col. H. A. FOSTER, J.P.  
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A. E. HUTTON, M.P.  
Councillor F. W. JOWETT, Chairman of the  
Health Committee, Bradford.  
Councillor WILLIAM CHARLES LUPTON  
The Rt. Rev. Mgr. J. CANON MOTLER.  
THOMAS MILVAIN, J.P., M.P.  
TOM MITCHELL, J.P.  
W. H. MITCHELL, J.P.  
G. S. POLLARD, J.P.  
THOMAS PRIESTLEY, J.P.  
Councillor W. E. B. PRIESTLEY.  
The Rt. Rev. J. J. PULLEME, D.D.  
JAMES ROBERTS, J.P.  
Rev. Dr. ROBERTSON, D.D.  
A. H. ROBINSON, J.P.  
J. L. WANKLYN, M.P.  
JAS. WATSON, M.INST.C.E.  
JOHN WAUGH.  
GEORGE WHITELEY, M.P.  
W. A. WHITEHEAD, J.P.  
T. P. WHITTAKER M.P.

### Chairman of Local Committee.

THE WORSHIPFUL THE MAYOR OF BRADFORD (ALDERMAN DAVID  
WADE, J.P.).

### Vice-Chairman.

COUNCILLOR J. A. GODWIN, J.P.

### Hon. Local Treasurer.

G. A. THORPE, F.S.A.A., City Treasurer.

### Local Secretary.

W. ARNOLD EVANS, M.D., D.P.H.

### Local General Committee.

Sir GEORGE ROBERTSON, K.C.S.I.  
 J. H. ACKROYD, J.P.  
 E. ALEXANDER.  
 R. G. ALEXANDER, M.A., M.D., F.L.S., J.P.  
 A. H. ALLEN, County Analyst.  
 C. F. M. ALTHORP, M.B., L.R.C.P.  
 C. P. ANDERTON, J.P.  
 Councillor JOHN ARNOLD.  
 R. ARMISTEAD, C.E.  
 Councillor Rev. G. E. ASPINALL, M.A.  
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 Councillor R. S. BALDEN.  
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 EDGAR BARRACLOUGH.  
 Councillor JAMES BARRACLOUGH.  
 Rev. E. R. BARRETT.  
 M. J. BARRY, J.P.  
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 F. H. BENTHAM.  
 C. BEVERLEY, J.P.  
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 Councillor A. K. BLACKBURN.  
 A. H. BLANKLEY.  
 Lieut.-Col. BOOTHBY.  
 M. BOTTOMLEY, J.P.  
 Councillor W. BRAITHWAITE.  
 Councillor J. J. BRIGG.  
 WM. BRIGG, C.E.  
 Councillor CHARLES HENRY BRIGGS.  
 Rev. RAWDON BRIGGS.  
 A. BRONNER, M.D., M.R.C.S.  
 Alderman W. BUCKLEY.  
 Councillor THOMAS BURKE.  
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 JAMES BURNLEY, J.P.  
 ARTHUR BYLES.  
 J. SPOTTISWOODE CAMERON, M.D.,  
 M.R.C.S. B.S.C., Med. Officer of Health, Leeds.  
 JAMES CHAMBERS, Chief Inspector of  
 Nuisances.  
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 E. A. CHATTOCK.  
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 Councillor EZRA CLAYTON.  
 Alderman T. CLOUGH.  
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 J. COWGILL.  
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 L. DARLINGTON.  
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 Councillor JOSEPH DAWSON.  
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 Alderman H. DUNN.

R. M. DUNWELL.  
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 tect.  
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 Alderman SAM ELSWORTH.  
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 of Health.  
 J. FARNDALE, Chief Constable.  
 G. H. FELL, Manager, G.N.R. Station, Brad-  
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 Rev. G. B. FLYNN.  
 Councillor FRED FOSTER.  
 Col. W. H. FOSTER, D.L., J.P.  
 WM. FOSTER, M.A., M.B., D.P.H., Medical  
 Officer of Health, Shipley.  
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 Councillor JAMES FREEMAN.  
 Councillor ANTHONY GADIE.  
 Rev. C. GALLACHER.  
 THOS. GARBUTT, Clerk to the School Board.  
 WALTER M. GARDNER.  
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 CHARLES GOTT, C.E.  
 DAVID GOYDER, M.D., Bradford Philoso-  
 phical Society.  
 Rev. JAMES GREGORY, Bradford His-  
 torical and Antiquarian Society.  
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 Councillor THOMAS ARNAUD GUY.  
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 AKER.  
 Rev. A. J. HARDING.  
 Councillor EDWD. ROBERTSHAW HART-  
 LEY.  
 Councillor JOSEPH HAYHURST.  
 GEORGE HAZLEY, J.P.  
 Councillor HENRY HIBBERT.  
 Councillor JAMES HILL.  
 THOMAS HILL.  
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 of Health, Pontefract.  
 Alderman IRVINE HIND.  
 Rev. A. HINSLEY, B.A.  
 G. J. J. HOFFMANN, J.P.  
 Councillor HENRY HOLDSWORTH.  
 FRED HOLLAND, C.E.  
 FREDERICK HOOPER, Secretary of Cham-  
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 T. C. HOPE.  
 Alderman J. C. HORSFALL.  
 Councillor SAMUEL HORSFALL.  
 Rev. RICHARD HOWARTH.  
 Rev. A. J. HOWELL.  
 CHARLES HOWROYD.  
 R. HUDSON.  
 Alderman JAMES HUSTLER.  
 J. G. HUTCHINSON, City Coroner.  
 Councillor JOHN HENRY HUTTON.  
 Rev. O. W. N. HYNNE.  
 H. H. ILLINGWORTH, J.P.  
 OATES INGHAM.  
 Councillor J. ISLES.  
 L. L. JACKSON.  
 S. JACKSON, J.P.  
 WOOLLEB JENNINGS.  
 Councillor RICHARDSON JENNINGS.  
 H. A. JOHNSON, C.E.  
 Councillor RICHARD JOHNSON.  
 S. JOHNSON, M.D., L.R.C.P., L.R.C.S.

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- Rev. J. JOLLY.  
 J. B. KAYE, M.R., D.P.H., Medical Officer of  
 Health, West Riding County Council.  
 Rev. W. KEELING, M.A.  
 H. FISON KILLICK, J.P.  
 J. T. KITCHIN, M.D.  
 Councillor WILLIAM LAND.  
 ALFRED LAW, J.P.  
 JOSEPH LAW, J.P.  
 JAMES LAZENBY, J.P.  
 WALTER LEACH.  
 JAMES LEDINGHAM.  
 Rev. J. LEIGHTON.  
 C. E. LIEBREICH, Royal National Lifeboat  
 Institution.  
 HENRY LINGARD.  
 Alderman HEZEKIAH LISTER.  
 Councillor THOMAS LISTER.  
 Alderman WILLIAM LISTER.  
 S. LODGE, L.R.C.P., M.R.C.S.  
 Councillor Col. E. A. MAUCKIE.  
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 J. WRIGHT MASON, M.B., D.P.H., M.R.C.S.,  
 Medical Officer of Health, Hull.  
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 Officer of Health, Brighouse.  
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 R. MAWSON.  
 Rev. R. B. MCKEE.  
 C. J. B. McLEAN, M.D., Medical Officer of  
 Health, Doncaster.  
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 R. MEACER, L.R.C.P., M.R.C.S.  
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 S. MILLER.  
 Messrs. MILNES & FRANCE.  
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 Rev. W. C. MINFIE, D.D.  
 Councillor GEORGE MINTY.  
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 of Health, Huddersfield.  
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 Alderman JOSEPH MOORHOUSE.  
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 W. J. MORTLEY.  
 Councillor Rev. L. B. MORRIS, M.A.  
 Councillor JACOB MOSER.  
 I. MOSSOP, F.R.C.S., L.R.C.P.  
 WILLIAM MOULSON, J.P.  
 Col. MULLER.  
 ALFRED MUSGRAVE.  
 Rev. Canon A. J. G. NASH.  
 J. T. NEECH, M.D., D.P.H., Medical Officer  
 of Health, Halifax.  
 ALEX. NAIL.  
 Councillor C. D. NICHOLSON.  
 Councillor BENJAMIN NORTH.  
 JOHN NUTTER.  
 WILLIAM ODDY, J.P.  
 Alderman MICHAEL O'FLYNN.  
 M. M. PATERSON, C.E.  
 Councillor ABRAM PEEL.  
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 E. P. PETERSON.  
 Councillor WILLIAM PICKLES.  
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 Alderman ENOCH PRIESTLEY.  
 ALFRED PRIESTMAN.  
 Councillor ALFRED TUKE PRIESTMAN.  
 Councillor ARTHUR PRIESTMAN.  
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 Alderman HENRY BUTLER RATCLIFFE.  
 Rev. T. E. RAWLINGS.  
 WILLIAM RAWLINGS, J.P.  
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 Councillor ROBERT ROBERTS.  
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 Councillor CHARLES LEONARD ROBIN-  
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 S. ROBINSON.  
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 W. SCATTERTY, M.A., M.D., Medical Officer  
 of Health, Keighley.  
 W. H. SEAL.  
 G. SEMON.  
 R. SHACKLETON, J.P.  
 S. SHAFTOE, J.P.  
 WM. SHEARD, Royal National Lifeboat  
 Institution.  
 Rev. D. W. SIMON, D.D., Professor of Theo-  
 logy, Yorks United Independent College.  
 The Very Rev. CANON SIMPSON.  
 Rev. J. SLATTERY.  
 Councillor ROBERT WILSON SLICER.  
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 ISAAC SMITH, J.P.  
 Councillor PHILIP SMITH.  
 WHEATER SMITH.  
 Councillor THOMAS SOWDEN.  
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 C. J. SPENCER.  
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 S. T. STEELE, L.R.C.P., M.R.C.S., D.P.H., Medi-  
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 F. STEVENS, Town Clerk.  
 Councillor JOSEPH STÆINGER.  
 J. A. E. STUART, L.R.C.P., F.S.A., Medical  
 Officer of Health, Batley.  
 HALLIWELL SUTCLIFFE, Bradford Lite-  
 rary Club.  
 H. SUTCLIFFE, J.P.  
 H. B. SUTCLIFFE.  
 Councillor JOHN WILLIAM SWITHEN-  
 BANK.  
 H. E. TAYLOR, M.R.C.S., L.S.A.  
 G. A. THORPE, City Treasurer.  
 Alderman JOHN SLATER TOOTHILL.  
 WALTER TOWNEND.  
 Councillor JOHN TRIFFITT.  
 Councillor HERBERT MORRIS TROTTER.  
 C. J. VINT, Treasurer, Bradford Church  
 Institute.  
 Alderman WILLIAM HORSFALL VINT.  
 W. H. WADDINGTON, M.B., Medical Officer  
 of Health, Scarborough.  
 W. S. WADE, L.R.C.P., L.S.A., Medical Officer  
 of Health, Wakefield.  
 B. WADE, L.R.C.P., L.R.C.S.  
 FRED WADSWORTH.  
 Councillor WILLIAM WABBURTON.  
 F. D. WARDLE.  
 W. F. WATTS, M.R.C.S., L.S.A., Medical Officer  
 of Health, Dewsbury.



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 GEORGE WAUD.  
 P. WHALLEY, H.M. Inspector of Schools.  
 Dr. H. W. WHITE, L.R.C.P.  
 JONAS WHITLEY, J.P.  
 JOSEPH WHITTINGHAM, J.P.  
 Councillor REGINALD WILLIAM WICKHAM.  
 Councillor GEORGE WILKINSON.  
 Councillor TOM WILKINSON.  
 Rev. W. WILKINSON, M.A.  
 Rev. RHONDDA WILLIAMS.  
 Councillor THOMAS ATKINSON WILLIAMSON.  
 T. WILMOT, L.R.C.P., M.R.C.S.  
 H. MCLEAN WILSON, M.D., B.Sc., West  
 Riding Rivers Board.  
 W. P. WINTER, B.Sc., Bradford Scientific  
 Association.  
 BUTLER WOOD.  
 CHARLES WOOD.  
 Alderman WM. WILLIS WOOD.  
 W. B. WOODHEAD, C.E.  
 Alderman HENRY STEEL WRIGHT.  
 JAMES YOUNG.  
 His Worship the MAYOR OF BARNSLEY  
 (Councillor W. E. Raley, J.P.).  
 His Worship the MAYOR OF BATLEY  
 (Alderman J. W. TURNER).  
 His Worship the MAYOR OF BRIGHOUSE  
 (Alderman S. E. HIRST, M.A., J.P.).  
 His Worship the MAYOR OF DEWSBURY  
 (Alderman E. Kilburn).  
 His Worship the MAYOR OF HALIFAX  
 (Alderman J. Wade).  
 His Worship the MAYOR OF HARRO-  
 GATE (Councillor H. Milling).  
 His Worship the MAYOR OF HUDDERS-  
 FIELD (Alderman F. Calvert).  
 His Worship the MAYOR OF KEIGHLEY  
 (J. Waterhouse).  
 His Worship the MAYOR OF KINGSTON-  
 ON-HULL (Alderman W. A. Gelder).  
 His Worship the MAYOR OF OSSETT  
 (Alderman F. L. Fothergill).  
 His Worship the MAYOR OF PONTE-  
 FRACT (Alderman T. R. Ramsden).  
 His Worship the MAYOR OF RIPON (Wm.  
 T. Moss).  
 His Worship the MAYOR OF SCAR-  
 BOROUGH (Wm. Morgan).

His Worship the MAYOR OF TODMOR-  
 DEN (Alderman W. Jackson).  
 His Worship the MAYOR OF WAKEFIELD  
 (Alderman E. A. Brotherton, M.P.)  
 BOROUGH SURVEYOR OF BARNSLEY.  
 BOROUGH SURVEYOR OF BATLEY.  
 BOROUGH SURVEYOR OF BRIGHOUSE.  
 BOROUGH SURVEYOR OF CASTLEFORD.  
 BOROUGH SURVEYOR OF DEWSBURY.  
 BOROUGH SURVEYOR OF GOOLE.  
 BOROUGH SURVEYOR OF HALIFAX.  
 BOROUGH SURVEYOR OF HUDDERS-  
 FIELD.  
 BOROUGH SURVEYOR OF KEIGHLEY.  
 BOROUGH SURVEYOR OF LEEDS.  
 BOROUGH SURVEYOR OF MIDDLES-  
 BROUGH (Frank Baker, C.E.).  
 BOROUGH SURVEYOR OF MORLEY  
 (W. E. Putman, A.M.I.C.E.).  
 BOROUGH SURVEYOR OF PONTEFRACT.  
 BOROUGH SURVEYOR OF RIPON (Wm.  
 Osborne Thorpe, C.E.).  
 BOROUGH SURVEYOR OF SCARBOR-  
 OUGH (H. W. Smith, A.M.I.C.E.).  
 BOROUGH SURVEYOR OF SHEFFIELD  
 (Chas. F. Wike, M.I.C.E.).  
 BOROUGH SURVEYOR OF SHIPLEY.  
 BOROUGH SURVEYOR OF YORK.  
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 OF BATLEY.  
 CHAIRMAN of the HEALTH COMMITTEE  
 OF BRIGHOUSE.  
 CHAIRMAN of the HEALTH COMMITTEE  
 OF DEWSBURY.  
 CHAIRMAN of the HEALTH COMMITTEE  
 OF HARROGATE (Alderman W. H. Mil-  
 ner, J.P.).  
 CHAIRMAN of the HEALTH COMMITTEE  
 OF HUDDERSFIELD.  
 CHAIRMAN of the HEALTH COMMITTEE  
 OF PUDSEY.  
 CHAIRMAN of the HEALTH COMMITTEE  
 OF WAKEFIELD.  
 THE MEDICAL OFFICER OF HEALTH,  
 CASTLEFORD.  
 The CHAIRMAN of the SHIPLEY SCHOOL  
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 The PRESIDENT OF THE BRADFORD  
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 Alderman A. ANDERTON, J.P.  
 W. A. WHITEHEAD, J.P.  
 TREVOR EDWARDS.  
 J. R. KAYE, M.B., D.P.H.  
 E. P. DUGGAN, J.P.  
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 Councillor T. BURKE.  
 Councillor F. W. JOWETT.  
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 W. B. GORDON.  
 AMOS CRABTREE.  
 WILLIAM CLARIDGE.  
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 T. WILMOT, L.R.C.P., M.R.C.S.  
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 JAMES LEDINGHAM  
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J. E. FAWCETT, J.P.  
G. S. POLLARD, J.P.  
Councillor W. E. B. PRIESTLEY.  
A. H. ROBINSON, J.P.  
Col. MULLER.

Councillor T. A. GUY.  
Councillor J. MOSER.  
H. LINGARD.  
OATES INGHAM.  
J. B. MOORHOUSE.  
WOOLLEB JENNINGS.

TREASURER—G. A. THORPE.

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Sir TRISTRAM T. TEMPEST, BART., J.P.  
Rev. Dr. ROBERTSON, D.D.  
Councillor J. A. GODWIN, J.P.  
JAMES LAZENBY, J.P.  
T. WHITESIDE HIME, B.A., M.D.  
SAMUEL MILLER.  
Councillor J. T. RIDDIOUGH.  
JAMES ROBERTS, J.P.

R. W. GODDARD.  
W. E. AYKROYD, J.P.  
Councillor ARTHUR PRIESTMAN.  
G. H. ROBINSON.  
GEORGE WAUD.  
EDGAR BARRACLOUGH.  
E. ALEXANDER.  
GEORGE H. HODGSON.

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J. GARFIELD, A.M.I.C.E.  
W. B. WOODHEAD.  
F. H. BENTHAM.  
W. H. SEAL.

WALTER LEACH.  
R. MERCER, L.R.C.P., M.R.C.S.  
Councillor F. FOSTER.  
Alderman W. HOLDSWORTH.  
J. CHAMBERS.  
R. H. CROWLEY, M.D., M.R.C.P., M.R.C.S.

### Literary and Press Sub-Committee.

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J. NUTTER.  
BUTLER WOOD.  
HALLIWELL SUTOLIFFE.  
WHEATER SMITH.  
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THOMAS GARBUIT.  
D. GOYDER, M.P.  
WALTER TOWNEND  
J. E. WILSON.  
H. C. DERWENT.  
JASPER PATERSON

The Government, County Councils, Corporations and Local Authorities, who have up to the present appointed Delegates to the Congress.

GOVERNMENT DEPARTMENT.  
War Office.

COUNTY COUNCILS (21).

Aberdeen.	Gloucestershire.	Northampton.
Cheshire.	Kesteven.	Northumberland.
Cumberland.	Lanark, upper Ward.	Nottingham.
East Sussex.	Lanarkshire.	Somerset.
Elgin.	Leicester.	Staffordshire.
Essex.	Monmouthshire.	Warwickshire.
Forfarshire.	Northamptonshire.	Worcester.

COUNTY BOROUGHs (36).

Barrow-in-Furness.	Croydon.	Portsmouth.
Bath.	Darlington.	Rochdale.
Birkenhead.	Gateshead.	Rotherham.
Birmingham.	Halifax.	Sheffield.
Blackburn.	Hanley.	Southampton.
Bolton.	Huddersfield.	South Shields.
Bootle.	Hull.	Stockport.
Brighton.	Middlesbrough.	West Ham.
Bury.	Newcastle-on-Tyne.	Wigan.
Cambridge.	Newport.	Wolverhampton.
Cardiff.	Norwich.	Worcester.
Crewe.	Nottingham.	York.

METROPOLITAN BOROUGHs (8).

Battersea.	Lewisham.	Stoke Newington.
Holborn.	London, City of.	St. Pancras.
Lambeth.	Stepney.	

URBAN DISTRICT COUNCILS OR SANITARY AUTHORITIES (68).

Balby-with-Hexthorpe.	Fenton.	Rhyl.
Barnsley.	Folkestone.	Richmond.
Beaumaris.	Glossop.	Rochester.
Bedford.	Golcar.	Royal Leamington Spa.
Benfieldside.	Hebden Bridge.	Scarborough.
Birkenshaw.	Helensburgh.	Shanklin.
Borwick-on-Tweed.	Hendon.	Skipton.
Blackpool.	Heywood.	Southall Norwood.
Blackrock.	Ilford.	Stretford.
Brighouse.	Jarrow.	Swindon.
Carnarvon.	Keighley.	Tayport.
Chiswick.	Kirkheaton.	Thornhill.
Chorley.	Leyton.	Tipton.
Crompton.	Littleborough.	Tonbridge.
Dewsbury.	Little Hulton.	Tottington.
Dover.	Loughborough.	Wallasey.
Dumbarton.	Maidenhead.	Waterford.
Eastbourne.	Oakworth.	Whickham.
Eccles.	Penmaenmawr.	Widnes.
Farnham.	Prestwich.	Willenhall.
Farnworth.	Raunds.	Willesden.
Featherstone.	Reigate.	Wood Green.
Fenny Stratford.	Rhondda.	

**RURAL DISTRICT COUNCILS (15).**

Bishop Auckland.	Farnham.	Nantwich.
Blackwell.	Kingswinsford.	Skipton.
Cannock.	Lanchester.	Sunderland.
Conway.	Llantrisant and Llant-	Wallingford.
Doncaster.	wit Fardre.	Wetherby.
Egham.		

**PORT SANITARY AUTHORITIES AND OTHERS (2).**

Keighley and Bingley Joint Hospital Board.  
West Riding, Yorks, River Board.

**SCHOOL BOARDS (2).**

Bradford. | Halifax.

**Societies who have appointed Delegates to the Congress.**

(28)

Apothecaries' Hall, Dublin.  
Architectural Association.  
Association of the Leather Trade.  
Bedford College for Women.  
British Medical Association.  
Civil and Mechanical Engineers' Society.  
Geological Society.  
Geologists' Association.  
Institute of Marine Engineers.  
Institution of Civil Engineers of Ireland.  
Institution of Engineers and Shipbuilders in Scotland.  
Institution of Mechanical Engineers.  
Jenner Institute of Preventive Medicine.  
Medico-Psychological Association.  
Metropolitan Asylums Board.  
National Union of Sanitary Inspectors.  
Queen's College, Cork.  
Pharmaceutical Society of Ireland.  
Royal College of Surgeons in Ireland.  
Royal Institute of British Architects.  
St. John Ambulance Association.  
Society of Architects.  
Society of Arts.  
University of Birmingham.  
University College, Liverpool.  
University of Durham.  
University of Glasgow.  
Victoria University.

# **Proceedings of the Congress and Officers Sections and Conferences.**

## **Inaugural Address to the Congress**

BY THE RIGHT HONBLE. THE EARL STAMFORD.

## **Conversazione and Reception**

BY THE WORSHIPFUL THE MAYOR OF BRADFORD  
(ALDERMAN DAVID WADE, J.P.).

## **Lecture to Congress on**

BY J. SLATER, B.A., F.R.I.B.A.

## **Popular Lecture on**

BY

*For time and places of Meetings see page*

## **SECTIONAL MEETINGS.**

### **Sect. I.—“Sanitary Science & Preventive Medicine.”**

*July 9th and 10th, to be held in THE*

#### **President.**

PROF. T. CLIFFORD ALLBUTT, LL.D., M.A., M.D., F.R.C.P., D.S.C., F.R.S., F.S.A.,  
F.L.S., J.P., D.L.

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H. C. MAJOR, M.D., C.M.

A. BABAGLIATI, M.A., M.D., F.R.C.S.  
T. PRIDGIN TEALE, M.A., M.B., F.R.C.S.,  
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This Conference is open to all interested in the subject.

# Order of Proceedings.

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## TUESDAY, JULY 7TH.

- 12.30 p.m.—Reception of the Members of the Congress by  
THE WORSHIPFUL THE MAYOR OF BRADFORD.
- 1.30 p.m.—Public Luncheon.
- 3.0 p.m.—Opening of the Health Exhibition in Bellevue Volunteer  
Barracks, Manningham Lane.
- 8.30 p.m.—Inaugural Address to the Congress.

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## WEDNESDAY, JULY 8TH.

- 9.30 a.m. to 2 p.m.—Conferences. (See pages    ).
- 8.30 p.m.—Conversazione and Reception by  
THE WORSHIPFUL THE MAYOR.

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## THURSDAY, JULY 9TH.

- 10 a.m. to 2 p.m.—Meetings of Section I. (See page    ) Sanitary  
Science and Preventive Medicine. Section II.—Engineering  
and Architecture. Section III.—Physics, Chemistry, and Biology.
- Presidents' Addresses, Papers, and Discussions.
- 8.30 p.m.—Lecture to the Congress.

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## FRIDAY, JULY 10TH.

- 10 a.m. to 2 p.m.—Meetings of Section I.—Sanitary Science and Pre-  
ventive Medicine. Section II.—Engineering and Architecture.  
Section III.—Physics, Chemistry, and Biology.
- 1.30 p.m.—Closing Meeting of the Congress.
- 
- p.m.—Popular Lecture.

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## SATURDAY, JULY 11TH.

- Excursions.
- Excursions and Visits to places of interest will be made during  
the Congress.

[Particulars will be given in future Programmes.]

### **Subjects suggested for Discussion or Papers.**

The Health Conditions of Town Flats.  
 Municipal Lodging Houses.  
 Cottages for Agricultural Labourers.  
 Bakehouses.  
 The Working of the Factory Acts from the view of the Bradford Manufacturer.  
 Public Slaughter-Houses.  
 Sanitation of Cowsheds.  
 Control and Inspection of Imported Meat.  
 Diseases of Animals Conveyed by Milk.  
 Preservatives in Butter and Milk.  
 Weak Points in the Sale of Food and Drugs Acts.  
 The Protection of Shell-fish from Pollution.  
 Food Poisoning (bacillary) Epidemics.  
 Difficulties of Dealing with Tuberculosis in Cattle.  
 The Notification of Tuberculosis.  
 Temporary (or cheap) Buildings for Consumptive Sanatoria.  
 The Personal Hygiene of Consumptives.  
 The Identification of the Typhoid Bacillus.  
 Precautions against the Importation of Infectious Maladies from Abroad.  
 The Prevention of Small-pox.  
 The Aerial Spread of Small-pox.  
 Improvements in the Methods and Practice of Disinfection.  
 Shell-fish and Enteric Fever.  
 Evidence with Regard to Direct Infection of Enteric Fever.  
 The Etiology of Endemic Enteric Fever.  
 The Disinfection of Ships and Cargoes.  
 Isolation Hospitals.  
 The Etiology of Cancer.  
 Ventilation: Plenum *v.* Exhaustion.  
 Ventilation of Sewers.  
 Elimination of Pathogenic Bacteria in Sewage.  
 Chemical Purification of Sewage.  
 Standards of Purity for Sewage Effluents.  
 Purification of Trade Effluents.  
 Disposal of Towns' Refuse.  
 Scavenging of Villages.  
 Smoke Abatement.  
 Dry Systems and Water Carriage for the Disposal of Excreta.  
 The Advantages and Disadvantages of Domestic Cisterns.  
 The Collection and Storage of Flood-Waters and the Purification of such Waters.  
 Care of the Eyes of School Children.  
 Health Aspects of Occupations for Women.  
 The Value to Teachers of Recognised Certificates in Hygiene.  
 Granting of Sanitary Certificates by Sanitary Authorities.  
 Factories and Workshops.  
 Teaching of Hygiene in Elementary Schools.

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Applications for Space must be made on the Official Form and under the proper Class. They must be sent to the Curator of the Exhibition at the Offices of the Institute, Margaret Street, London, W., not later then Tuesday, JUNE 9TH, but it is advisable that much earlier application should be made.

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Silver and Bronze Medals will be awarded at the discretion of the Judges, and their decisions will in all cases be final. A complete classified list of all awards from the commencement of the series of Exhibitions is published by the Institute.

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Volume XXIV.—Part II.]

[July, 1903.]



SUPPLEMENT TO THE JOURNAL  
OF  
THE SANITARY INSTITUTE.

PUBLISHED QUARTERLY.

CONTENTS ON BACK COVER.

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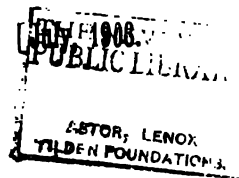
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---

REVIEWS OF BOOKS.

---

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This small work is intended by the writer to serve as an elementary guide to teachers and parents, and it is certainly well designed to meet this object.

It sets forth, clearly and correctly, the rudiments of physiology, anatomy, the hygiene of the scholar and of the school, infectious diseases and their prevention, and the treatment of school accidents.

There are no important matters bearing upon the hygiene of school-life that the writer does not refer to, and therefore it goes without saying that a great deal of the information is somewhat scrappy in nature. The writer has, however, shown judgment in suitably allotting the small space at his disposal to the various matters on which he treats, in proportion to their practical importance.

Dr. Beale Collins states in the preface that the work makes no claim to originality, and he also adds "There are doubtless many books similar in scope to this little handbook, but with such an inert resisting mass to overcome, the teaching herein set forth can hardly be overdone."

H. R. K.

BUILDING CONSTRUCTION AND DRAWING.†

This book is the sixth edition of a well known elementary text-book for the use of students entering for the examinations of the Science and Art Departments and other bodies, the text has been

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\* The Hygiene of Schools and Scholars. By H. Beale Collins, D.P.H., &c., Medical Officer of Health for Kingston-upon-Thames, etc. 152 pp. London. Ralph Holland & Co. 1902.

† Building, Construction, and Drawing. By C. F. Mitchell. 392 pp. 8vo. B. T. Batsford. London, 1902.



brought up to date and many illustrations added, and it can be safely recommended as a reliable handbook for students.

The book also forms a useful reference for those who are interested in building construction and wish to know how good work should be done, the illustrations are clearly drawn and the letterpress explains the various technical terms applied to the different parts of the work in a clear and concise manner, so that all who are interested in building operations can, if they wish to understand the methods employed, rely on the explanations given by Mr. Mitchell as being the current practice for good work of the ordinary type. Of course, in a work of this kind it would be easy to give a great many more illustrations of various other ways of doing the different operations which are here described, but Mr. Mitchell has wisely kept the size of the book down to a handy compass and confined himself to describing the ordinary every day type of construction; when the student has fully mastered this it will be easy for him to pass on to problems of a more advanced kind.

H. D. S.

#### PRODUCTION AND USE OF ACETYLENE.\*

This reprint of a series of articles in the *Engineering Times*, while written mainly for the use of those engaged in the industry, is made sufficiently clear to the untechnical to enable the purchaser of an acetylene generator to select the most suitable, and to use it in the most satisfactory manner. The author is strongly in favour of simple apparatus with gasholders in preference to intricate automatic generators. On carbide "ingot" and "tapped" he makes several original points, and corrects from English and Continental experience some commonly accepted ideas. Chapter II. gives very plainly and completely the properties of acetylene, and the conditions of safe working. The "heat of formation" should have been stated as *minus* 47,700 calories.

It is observed that "air containing 20 per cent. of (presumably pure) acetylene can be breathed for a considerable time without ill effect; recovery from a poisonous quantity is much easier than with coal gas, which is far more dangerous in much smaller proportion." The removal of the impurities that have originated many of the objections is well described in Chapter V., and this purification should be done before entering the holder. Thirty-six candle power is a good working value, with a consumption of about one foot per hour, but even a burner passing  $\frac{1}{4}$  c.ft. will yield a light of nearly three candles. A warning is given against low or variable pressure; 3 in. should be maintained in the main pipes. The hygienic advantages of acetylene illumination are enunciated on p. 47, and the cost, under present restrictions, is estimated as equal to that of coal gas at 3s. 8d. per 1,000. The illustrations are good, and the treatise is interesting and practical.

S. R.

---

\* Production and Use of Acetylene. By W. Doman. 60 pp., 8vo., 30 illustrations. King & Son, Westminster.

### SANITARY ENGINEERING.\*

Measuring 9"×6"×3" without the covers, and weighing 5½ lbs., this book would command a material respect on account of size alone. But it has equal claims to recognition in respect of its contents, which are a monument to the industry, perseverance, and pertinacity of its author and compiler. Nothing like it has ever appeared on Sanitary Engineering, of which science it forms a very thorough and practical encyclopædia of methods and appliances. It is no derogation from the value of this book to state that it is not a student's book. It is for the man who knows, but who, like all professional men, cannot pretend to carry in his mind all the calculations and appliances which he may some day require to put to use and practice. The practical man knows what he wants but does not always remember just how he should set to work to find it. In this book he may find not merely the methods of calculation very thoroughly and fully worked out, but also mention description and illustrations of the appliances from which to select the nearest thing commercially available. From this book the Sanitary Engineer may refresh his memory on points of sewage disposal, refuse destructors and chimney construction; he may cull from many tables of velocity and discharge of various channels, may read of the transporting power of flowing water, or enquire into Bacteriolysis. W. C. T.

### A HANDBOOK OF THE OPEN-AIR TREATMENT.†

It is not difficult to see that this book is intended rather for the public than for the doctor or the scientific student. It is interspersed with advertisements; its pages are "embellished" with illustrations of special sanatoria, and the arrangement of the material of which the book is composed is sketchy, unsystematic, and unsatisfactory. Although useful information may be culled from its pages, the book is rather calculated to be useful from an advertising standpoint than to those really desiring information on the open-air treatment of phthisis. A. N.

### THE LAW RELATING TO FACTORIES AND WORKSHOPS.‡

This is a legal treatise planned on the customary system of giving verbatim the text of the statute, section by section, and interspersing

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\* Sanitary Engineering. By Col. E. C. S. Moore, R.E. A Practical Treatise on the collection, removal, and final disposal of sewage, the design and construction of Works of Drainage and Sewerage, &c., &c. 793 pp., 8vo. B. T. Batsford, London, 1901.

† A Handbook of the Open-Air Treatment. By Dr. Chas. Reinhardt and Dr. David Thomas. 2nd Edition. John Bale, Sons & Danielsson. London, 1902. pp. 176.

‡ The law Relating to Factories and Workshops as amended and Consolidated by the Factory and Workshop Act, 1901. By Wm. Bowstead. 343 pp. 8vo. Sweet and Maxwell. London, 1901.

the same with notes relating to decided cases and with cross references to definitions, etc. For the purposes of local authorities and their officials this is scarcely the most handy arrangement, inasmuch as their powers and duties are to be found sparsely distributed among the 163 sections, most of which do not directly concern the sanitary official. This drawback is mitigated by the provision of a very complete index at the end, and the book also contains valuable appendices setting out the special rules and orders, together with other statutes affecting factories and workshops.

It is very unfortunate, however, that since the book was written (Nov. 1901) a number of important orders have been made by the Secretary of State which replace some of those given here and materially affect the administration of the Act by local authorities, *e.g.*, the Homework Orders of December, 1901 and July, 1902, also Orders No. 23 and No. 89. To that extent this otherwise admirable work is already not quite up to date.

J. R. K.

#### THE AUSTRALIAN SANITARY INSPECTOR'S HANDBOOK.\*

This book opens with a preface by Dr. D. A. Gresswell, M.A., M.D.Oxford, Chairman, Board of Public Health, Victoria, who strongly recommends it as a handy and reliable guide to the sanitary inspector in the performance of his duties.

The introduction defines and specifies the scope of practical sanitation as adaptation to environment—or, rather, the converse.

The question of the choice of a site for a dwelling is dealt with on orthodox lines, but no mention is made of means by which the basements of houses (other than the actual walls) may be protected against dampness and ground air.

The section dealing with the meteorology of Australia is well-written and interesting, but there are a few inaccuracies in its figures—*e.g.*, the average annual rainfall of England (cited in comparison) is given as 40 inches.

The alternation of the cold and hot winds of S. and W. Australia is tersely explained (1) by the easterly progression of all local types of weather, (2) by the predominance of the anti-cyclone among these, and (3) by the southerly and northerly winds which occur respectively in front and in rear of the latter.

There is an excellent section on soil, but the observations with regard to the behaviour of certain pathogenic organisms in foul soil are, at this point, scarcely up to date. We now know, for instance, that Eberth's bacillus has a comparatively short life in such soil, and that the malarial parasite has its habitat in the mosquito and not in ground.

The chapter on food-stuffs contains much information, but is badly put together, and should be re-arranged and re-written. It contains

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\* The Australian Sanitary Inspector's Handbook. By John L. Bruce and Theodore M. Rendall. Wm. Brooks and Co., Ltd. Sydney, 1901.

also several statements which are open to criticism—such, for instance, as (that) “there cannot be any objection” to the use of Formaldehyde as a food preservative.

In the section on water supplies, which is written with evident care and discrimination, special attention is drawn to the obvious necessity for underground storage tanks in many Australian towns and districts. It is, however, to be regretted, that a special paragraph on the measurement of areas and capacities and estimation of work should be placed in the middle of this section instead of being taken by itself.

There is a slight lack of clearness in some of the statements regarding human parasites. The *tænia echinococcus*, for instance, whose cysticercus is a dangerous parasite in man, is not definitely stated to be derived from the dog and wolf alone.

The chapter on specific infectious diseases is open to criticism on similar grounds, and also for actual inaccuracy. It is stated that one attack of small-pox, measles, mumps, whooping-cough, and scarlet fever, respectively, confers complete immunity against another of the same disease during life, but this we know is by no means a universal fact. Again, the mortality from diarrhoea in Sydney is stated to have fallen from 1·09, before sewerage, to 1·8 after.

Defective punctuation makes certain quotations (*e.g.*, those from Sir R. T. Thorne's writing on diphtheria causation) extremely difficult to understand.

An immense number of interesting and valuable facts and opinions are crowded into the section dealing with the etiology of enteric fever; but without some previous knowledge of the subject we fear that the student will gather only a very hazy notion of modern expert opinion concerning it from a perusal of this section.

The chart (on page 135), indicating seasonal prevalence of enteric fever in Australia, reminds us forcibly of the fact that the seasons at the Antipodes are transposed as compared with those in Europe.

Australia, we are told, is exempt from hydrophobia, but leprosy is endemic, and a notifiable disease.

The article on disinfection is good and up to date, but we think that very few practical sanitary officers in this country will agree with the authors in giving pride of place to that form of steam disinfectant furnished with brick lagging, and in which the steam is generated within the jacket. It may be noted in passing, moreover, that Messrs. Goddard's name (Goddard, Massey, and Warner) is not spelt “Goddart.”

There are several errors (probably due to want of care in proof-correcting) in the otherwise excellent chapter on air—we are told, for example, that expired air contains 45 per cent. of CO<sub>2</sub>—and here also, as elsewhere, a little more care in arranging the matter dealt with would have added considerably to its digestibility.

Very sound and complete data are furnished for estimating and regulating ventilation, and the reader is warned against various pitfalls and fallacies connected with this difficult subject.

There is a very good article on furnace temperatures and com-

bustion in connection with the subject of smoke-abatement. The information here afforded is sufficient to enable the inspector to approach the problems which the last subject presents with an intelligent appreciation of all their principal difficulties.

The fact that, for all practical purposes, we must look to the regulation of draught both above and below the fire, and to careful stoking, for the abatement of the smoke nuisance, is insisted on and carefully explained.

The chapter on building construction is exceptionally well written, and contains much practical information. Special stress is laid upon the prevention of damp within the building, both from soil and atmosphere. The methods of constructing roofs, gutters, damp-courses, hollow walls, and sub-soil drains are described in detail.

The principal sanitary regulations affecting the construction and maintenance of dairies, cowsheds, milkshops, slaughterhouses, and premises in which offensive trades are carried on, are given at some length, and do not appear to differ greatly from those in force with us. No mention, however, is made of the actual space allotted to each animal in cowsheds, although the figure generally adopted in this country (800 cubic feet) is incidentally quoted.

The regulations under the Factories and Shops Act of 1896 are very similar to those in operation in England, but these regulations and those also having reference to general building construction (made under the Public Health Act, 1896) appear to leave more to the discretion of local officials than is usually the case with us.

In the chapter on sewage and refuse disposal we learn that the pail system, "as used in the majority of Australian towns . . . forms a hideous nuisance." The experience of Australia, therefore, in this regard coincides with our own. The "single-pail system" seems to be in use in most cases. The contents of the pail are removed by the night-soil scavengers, but the pail itself is not taken away for cleansing.

The section on drains, traps, and w.c.'s is for the most part comprehensive and clearly written, but it is scarcely up to date in certain particulars. For example, no mention is made of cast-iron drain pipes (with hammered lead joints) for use beneath dwelling-houses and other buildings, or for general purposes. Waste-water closets, moreover, are spoken of as likely to prove of much service where the available water-supply is of limited quantity. It is hardly necessary to add that the opinion here expressed is not that generally held by persons who have seen much of the working of these closets in this country.

A short review is given of the present position of the sewage disposal problem, and, after mention of chemical treatment, broad irrigation, and downward filtration, septic tank (anaërobic) and contact bed (aërobic) exposure, preference is expressed for the Ducat filter method—which dispenses with the anaërobic (preliminary) stage of treatment.

In commenting upon the decline in the crude death-rate, which has been more or less coincident with the growth of modern sani-

tation, no mention is made of the extraordinary reduction of the birth-rate in the Australian colonies, where, almost more than anywhere else in the civilized world (except perhaps France and some parts of America), it is one of the most disquieting social signs of the times. One of the early results of a lowered birth-rate is a decline in the general death-rate—but such decline, it goes without saying, cannot be long maintained.

The book concludes with a short section on sanitary law and a series of definitions, both of which might with advantage be amplified.

In closing this notice of the Australian Sanitary Inspector's Text-book, the reviewer desires to say that, while agreeing in the main with Dr. Gresswell's statement that it can be recommended with the greatest confidence, he cannot but feel that a little more care might—with much advantage to all concerned—have been exercised in preparing it for the press.

P. B.

#### THE LAW RELATING TO THE POLLUTION OF RIVERS.\*

Like those relating to Public Health generally, the laws which have reference to the pollution of rivers are found scattered throughout a number of Acts of Parliament, and are so governed by ruling cases that it has always been a matter of difficulty to acquire a definite knowledge of them. This difficulty is in great part removed by Mr. Fitzgerald's work, and the book is one of extreme usefulness.

An introduction deals with Common Law, Easements, Statutory Provisions, and Procedure, and the General Statutes are given in detail with useful notes and case references, Local Acts being referred to in an appendix.

As a general exposition of the law the work is very comprehensive, and it is only when inquiry is being made into specific difficulties that it is felt to fall short of a complete monograph. In dealing, for example, with the question of the admission of trade refuse to sewers, which is now so acute, there is no reference to the important cases of *Cowie & Son v. Commissioners of Dufftown* (*The Scots Law Times*, p. 304, 29th Dec., 1900); *Attorney General and Sevenoaks R.D.C. v. Whitmore* (*The Times*, 25th July, 1900); and the appeal in the case of *Eastwood Bros., Ltd. v. Honley U.D.C.* (1901, 1 Ch. 645; 70, L.J. 313; 84, L.T. [N.S.] 169). Nor is there any mention of the legality or otherwise of the regulations and agreements for the admission of trade refuse, which have been drawn up by so many Sanitary Authorities. There seems, moreover, to be no guide to what constitutes a tidal stream, nor to fixing upon the proper person the responsibility for cleansing a foul watercourse.

But these are only minor defects found after careful search, and, with the alterations necessary on account of recent legal decisions, will no doubt receive the author's attention in future editions. The work stands as a very valuable addition to the library of all

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\* The Law affecting the Pollution of Rivers and Water generally. By J. V. Vesey Fitzgerald, K.C. 175 pp., 8vo. Knight & Co., London, 1902.

those engaged in Public Health work. It has the advantage of a good index and a full table of cases cited, which make it very handy as a book of reference.

H. M. W.

#### ADVANCED HYGIENE.\*

The authors state in the preface that the success attending the publication of "First Stage Hygiene" has induced them to issue a work representing a second year's course of study.

For a second year's course the work under consideration deserves high commendation. As a work on Advanced Hygiene some chapters are deficient. This is most noticeable in the divisions devoted to house drainage and sewage disposal.

On the other hand, the food tests given in Chapter III. are somewhat beyond the scope of students attending a second year's course. The instructions for some of the tests are too indefinite. The figures given for the Valenta Test are higher than those found in practice.

A. W. H.

#### FIRST STAGE HYGIENE.†

An excellent little book for junior students of elementary hygiene, written in simple style.

The book is interesting as well as instructive, and its value is enhanced by the inclusion of physiology in logical sequence with elementary hygiene.

The author may be congratulated upon a second edition.

A. W. H.

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\* Advanced Hygiene. By Alfred E. Ikin, B.Sc. (Hons.) Lond., L.C.P., and Robert A. Lyster, M.B., B.Ch., B.Sc.Lond., D.P.H. 300 pp., 16mo. W. B. Clive. London, 1902.

† First Stage Hygiene. By Robert A. Lyster, B.Sc.Lond., D.P.H., 190 pp. 16mo. W. B. Clive. London,, 1900.

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## ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

*Abstracts of Titles classified in this List under the following headings:—*

Science in Relation to Hygiene and Preventive Medicine.

Hygiene of Special Classes, Trades, and Professions; and  
Municipal Administration.

Building Materials, Construction, and Machinery.

Water Supply, Sewerage, and Refuse Disposal.

Heating, Lighting, and Ventilating.

Personal and Domestic Hygiene.

*The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.*

**Science in relation to Hygiene and Preventive Medicine.**

BANDELIER, Dr. Ueber die Heilwirkung des Neutuberculin (Bacillenemulsion). *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLIII., Heft 2, p. 315.

This is a paper on the curative effect of new tuberculine (bacilli-emulsion). (32 pages.)

BLUDAU, Dr. Die Bekämpfung der Malaria in Puntacroce. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLIII., Heft 1, p. 67.

The Author describes his attempt in Puntacroce to combat malaria. (15 pages.)

DONITZ, W. Beiträge zur Kenntniss der Anopheles. II.—Mittheilung. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLIII., Heft. 1, p. 215.

This is a second contribution by the Author to our knowledge of Anopheles. (23 pages.)

FROSCH, Prof. P. Die Malaria Bekämpfung in Brioni (Istria). *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLIII., Heft. 1, p. 5.

The Author describes his successful attempt in the Island of Brioni (Istria) to combat malaria (61 pages.)

GOSIO, Dr. B. Die Bekämpfung der Malaria in der Maremma Toscana. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLIII., Heft 1, p. 156.

In this paper the Author describes his attempts of combating malaria in the Maremma Toscana. (49 pages.)

JURGENS, Dr. G. Beobachtungen über die Widal'sche Reaction und die Mitagglutination der Typhoid bacillen. *Zeits-*



*chrift für Hygiene und Infectiouskrankheiten*, Vol. XLIII. Heft 2, p. 372.

The Author deals with Widal's Reaction and the agglutination of typhoid bacilli. (28 pages.)

KOCH, ROBERT. Die Bekämpfung der Malaria. *Zeitschrift für Hygiene und Infectiouskrankheiten*, Vol. XLIII., Heft 1, p. 1.

This is a short paper on the Prevention of Malaria by Robert Koch, and serves as an introduction to a set of seven papers on this subject in the same volume.

KURPJUWERT, Dr. Ueber den Einfluss warmer Sodalösungen auf Typhus bacillen, Bacterium coli und den Kuhrbacillus Kruse. *Zeitschrift für Hygiene und Infectiouskrankheiten*, Vol. XLIII., Heft 2, p. 369.

This paper deals with the effect of warm solutions of soda, on typhoid bacilli, bacterium coli, and the enteric bacillus Kruse. (2 pages.)

MARTINI, Dr. E. Ueber die Verhütung eines Malaria-Ausbruches zu Wilhelmshaven. *Zeitschrift für Hygiene und Infectiouskrankheiten*, Vol. XLIII., Heft 1, p. 206.

The Author describes the means he adopted for the prevention of a malaria outbreak at Wilhelmshaven. (8 pages.)

OLLWIG, Dr. Die Bekämpfung der Malaria. *Zeitschrift für Hygiene und Infectiouskrankheiten*, Vol. XLIII., Heft 1, p. 133.

This is a set of letters dealing with the attempts to prevent malaria in Daressalam. (22 pages.)

PETRUSCHKY, Y., and PUSH, H. Bacterium coli als Indicator für Fäkalverunreinigung von Wässern. *Zeitschrift für Hygiene und Infectiouskrankheiten*, Vol. XLIII., Heft 2, p. 304.

The Authors deal with the bacterium coli as an indication of the pollution of water by human excrement. (10 pages.)

PRAUSNITZ, C. Zum gegenwärtigen Stand der Cholera diagnose unter besonderer Berücksichtigung derjenigen Vibrionen deren Unterscheidung von Choleravibrio Schwierigkeiten bereitet. *Zeitschrift für Hygiene und Infectiouskrankheiten*, Vol. XLIII., Heft 2, p. 239.

The Author deals with the present state of cholera diagnosis with special reference to those vibrios which are difficult to identify. (65 pages.)

SIMON, D. Die desinfectorische Kraft erwärmter Sodalösungen. *Zeitschrift für Hygiene und Infectiouskrankheiten*, Vol. XLIII., Heft 2, p. 348.

The paper deals with the disinfecting power of warm soda solutions. (19 pages.)

VAGEDES, Dr. Bericht über die Malaria expedition in Deutsch-Südwestafrika. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLIII., Heft 1, p. 83.

This is a report on the malaria expedition in German South-West Africa. (49 pages.)

### Hygiene of Special Classes, Trades, and Professions; and Municipal Administration.

AYLING, R. STEPHEN, F.R.I.B.A. Public Abattoirs. *Surveyor*, May 1st, 1903, p. 514.

Abattoirs *v.* private slaughter houses—description of two large French abattoirs with plans—the Dublin abattoir—suggestions of the Model Abattoir Society.

ARMSTRONG, PROF. HENRY E., LL.D., PH.D., F.R.S. Science Workshops for Schools and Colleges. *Journal of R.I.B.A.*, Jan. 24th, 1903, p. 165.

Views and plans and a paper describing science room fittings, particularly those of Christ's Hospital, Horsham.

BARBER, J. PATTEN, M.Inst.C.E. Municipal Engineering. *Surveyor*, Feb. 13th, 1903, p. 223.

Road construction and maintenance—collection and disposal of domestic and trade refuse—tramways—motors—sewers—sewage purification.

“BUILDER,” EDITOR. The Housing Problem. *Builder*, Feb. 28th, 1903, p. 211.

Comparisons of cost when carried out by L.C.C. and voluntary builders, and suggestions for reducing this cost, etc.

CHAMPNEYS, BASIL, B.A. The Planning of Collegiate Buildings. *Journal of R.I.B.A.*, Feb. 21st, 1903, p. 205.

Paper giving types of College Buildings, with plans.

CLAY, FELIX. School Planning. *Builder*, Jan. 17th, 1903, p. 70.

Letter *re* height of class rooms, etc., in reply to an article in *The Builder*.

FLETCHER, BANISTER F. Sanatoria for Consumptives. *Building News*, Feb. 20th, 1903, pp. 257–8.

Uses for different floors and their arrangements—exterior design—construction—fittings.

HAIGH & THOMPSON. Children's Infirmary, Liverpool. *Builder*, Mar. 14th, 1903, p. 282.

Description of buildings, plans, and elevations.

HALL, EDWIN T., F.R.I.B.A. Four Modern Hospitals. *Surveyor*, April 24th, 1903, Supplement.

(1) Hospitals for scarlet fever and enteric diseases ; (2) Hospitals for small-pox ; (3) Sanatoria for tuberculosis, or consumption ; (4) General hospitals, with details of arrangement and construction.

JONES, W. CAMPBELL, F.R.I.B.A. St. Saviour's and St. Olave's Girl's School. *Builder*, Mar. 21st, 1903, p. 315, 28th March, 1903, p. 338.

Plate of perspective and plan. (p. 315) Description of building.

KEMP, S. HENRY. Sanitation, etc., at Port Elizabeth (Liverpool of South Africa). *Builder*, Mar. 14th, 1903, p. 285.

Review of sanitary methods and comments upon defects of the system.

LOVEGROVE, HENRY. Regulations for Protection from Fire. *Builder*. Feb. 28th, 1903, p. 226.

Various points to bear in mind when designing or building warehouses, theatres, public rooms, school rooms, etc.

MCDONALD, A. B. Structural Aspect of the Housing Problem. *Building News*, Feb. 27th, p. 295.

Housing of the dispossessed—simplicity of detail and general arrangement of dwellings—cubical contents—rentals—area of ground required for each tenement.

PHILLIPS, T. BRICE. Regulations relating to Protection from Fire. *Builder*, April 4th, 1903, p. 362.

Criticism of existing laws, by-laws, and regulations relating to prevention of fire and to extinction of fire ; also suggestions for the collation of reports and statistics by a central department—comparisons of numbers of fires in large towns and of the costs of various brigades.

PRICE, JOHN, M.Inst.C.E. Municipal Engineering. *Surveyor*, Nov. 21st, p. 616, Nov. 28th, 1902, p. 644.

Education of an engineer—(1) Roads: their construction, cleansing, etc. ; (2) Sewerage: the Birmingham sewers, relief sewers, overflows, and generally.

Destructors and their details of construction—bridges in Birmingham.

STURDY, FRANCIS J. Infirmary, Leytonstone, N.E. *Builder*, April 11th, 1903, p. 396.

Description of the building.

WEBB, ASTON BELL, and INGRESS. Illustrations, Christ's Hospital Schools, Horsham. *Builder*, Jan. 3rd, 1903, p. 15.

Perspective views and photographs.

YOUNG and HALL. Hampstead Hospital. *Builder*, Jan. 31st, 1903, p. 117.

Perspective view and short description.

### **Building Materials, Construction, and Machinery.**

BARBER, J. PATTEN. Wooden Structures. *Builder*, April 4th, p. 360.

Paper criticises the defects in the powers conferred upon Borough Councils, with regard to Wooden Structures, clashing with the duties of the District Surveyors and the L.C.C.

PORTER, HORATIO, M.A., A.R.I.B.A. Fire Prevention and Fire Resistance. *Journal of the Royal Institute of British Architects*, April 4th, 1903, p. 285.

Cause of fires—materials used in fire-resisting construction, and methods of forming fire-proof floors, columns, girders, &c., and fire-resisting partitions.

### **Water Supply, Sewerage, and Refuse Disposal.**

CAINK, —., A.M.Inst.C.E. Sewer Ventilation. *Surveyor*, Feb. 6th, 1903, p. 187.

Is ventilation necessary?—vertical air shafts—sewer ventilation at Worcester—arguments in favour of disconnecting house drains from sewer—provisions of model by-laws.

CROSS, AMBROSE, A.M.Inst.C.E. The Ventilation of Sewers and Drains, with special reference to the utilization of Flushing Water. *Surveyor*, Feb. 13th, 1903, pp. 214, 215.

Brief general aspects of ventilation—various systems of improving the open grid ventilator—general conclusions on same—forms of extractors—inlet ventilators—ventilation of house drains.

“ENGINEERING RECORD.” A difficult Sewer-crossing under an old Aqueduct in Brooklyn. May 30th, p. 579.

Description with sketch of the forcing of a 36 in. cast-iron sewer, 48 ft. long in 5 ft. lengths, beneath a large brick arched aqueduct.

GOODRICH, W. FRANCIS. Electricity from Refuse. *Surveyor*, Jan. 9th, 1903.

The case for the modern destructor—conditions under which destructors may be relied on for power producers—arrangement of cells—and boilers, tipping and charging—results tabulated as to units generated per ton of refuse, &c.

GREGORY, J. H. On the Design and Construction of Slow Sand Filters. *Engineering Record*, June 20th, 1903, p. 663.

General description—formulæ and diagrams.

HUMPHRIES, HERBERT H. Ventilation of Sewers and Drains. *Surveyor*, Feb. 13th, 1903, p. 217.

Ventilation of sewers in residential neighbourhood—design of sewers—as to self-ventilation—deodorizing—the intercepting trap.

HUMPHREYS, W. H. The Coating of Cast-iron Water Pipes. *Surveyor*, Dec. 12th, 1902, pp. 700, 701.

Statistics as to the coating of pipes affecting the taste of water—means adopted to remedy same—precautions for preventing a recurrence—methods in general practice for coating pipes.

MIDDLETON, R.E., M.Inst.C.E. River Pollution. Water Supply and Sewering. Local Authorities and the Law. *Surveyor*, Feb. 27th, 1903, p. 274.

The County Councils' Association—the powers of the controlling authorities—the Association of Water Works Engineers—generally as to prevention of waste water, and undue retention of water, &c.

POORE, G. V., M.D. Where Town and Country Meet. *Builder*, March 7th, 1903, p. 250.

Advantages of country over town for health.

POTTER, ALEXANDER. Standards for Sewer Pipe. *Engineering Record*, May 2nd, 1903, p. 470.

Standard Specification for the supply of stoneware sewer pipes, 8 in. to 24 in. diameter.

PRICE, JOHN, M.Inst.C.E. Town Sewerage and Drainage. *Surveyor*, March 27th, 1903, p. 387.

The combined system—the separate system—the partially-separate system—data necessary for designing a scheme of sewerage—the discharge of sewers and their velocity.

ROECHLING, H. ALFRED. Natural and Artificial Sewage Purification. *Builder*, Jan. 24th, 1903, p. 94.

Reply to "THE EDITOR'S REVIEW" on the Author's Book upon this subject.

SCOBLE, HERBERT T. Rural Drainage and Sewage Disposal. *Surveyor*, Jan. 16th, 1903, pp. 52, 53.

The necessity of sewerage—Dr. Poore's system—value of effluent—watershed authorities—Royal Commission reports—progress of bacterial treatment—review of position as regards rural affairs.

SHAW, JOHN. The Detection and Prevention of Underground Pollution (Water Supply). *Surveyor*, Dec. 26th, 1902, pp. 752, 753.

Underground and surface water—impurities in underground water—unseen pollution—wells and cesspools—organisms in water.

SMITH, C. CHAMBERS. Ventilation of Drains and Sewers—Ancient and Modern. *Surveyor*, Feb. 13th, 1903, p. 218.

Old methods of ventilation—various tests for sewer ventilation—cremating sewer air—mechanical ventilation. .

STOW, J. FREEBAIRN. The Biological Treatment of Sewage. (Some facts and figures.) *Surveyor*, March 6th, 1903, pp. 302, 303.

Uxbridge rural district joint drainage scheme—the outfall site, bacteria beds, sewage after treatment—the double contact system—screen chambers, construction of beds—general conclusions.

### Heating, Lighting, and Ventilating.

“BUILDER,” EDITOR. Flueless Gas Stoves. *Builder*, Jan. 31st, 1903, p. 108.

Remarks on the cause of Mr. Quintin Hogg’s death.

——— Pure Air without Draughts. Editorial note upon a lecture by Dr. T. Glover Lyon at Camera Club. *Builder*, Feb. 28th, 1903, p. 212.

Description of Dr. Lyon’s method.

——— Atmosphere in the “Tube.” *Builder*, Feb. 21st, 1903, p. 186.

Editorial note on report of the Public Health Committee of the London County Council.

CARY, A. A. Determining the Density of Smoke. *Engineering Record*, May 16th, 1903, p. 522.

Description of method of estimating density by weighing, by photometric measurement, and by comparison with shade charts.

“ENGINEERING RECORD.” Ventilating and Heating in the New Government Building at San Francisco. May 2nd, 1903.

Description of the methods employed, with illustrations.

READ, R., A.M.Inst.C.E. The Ventilation of Sewers and Drains. *Surveyor*, Feb. 6th, 1903, p. 190.

General arrangements of a system of sewers—causes of deposit in sewers—classification of methods of ventilation—reasons why putrefaction exists in sewers—intercepting traps.

STEELE, W. J., M.Inst.C.E. Ventilation of Sewers. *Surveyor*, Feb. 6th, 1903, p. 191.

The Bristol sewers—without ventilation—gullies trapped—intercepting traps—table of death-rates in large towns—Bristol health districts tabulated.

## MEETINGS HELD APRIL TO JULY, 1903.

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### INSTITUTE DINNER.

His Royal Highness the Duke of Cambridge, K.G., President of the Institute, presided at the Dinner of the Institute held on Friday, May 15th, at the Hotel Cecil.

Seventy-seven Members and guests were present, amongst whom were:—

His Grace the Duke of Northumberland, K.G., Vice-President; Rt. Hon. Lord Monkswell, Chairman London County Council; Rt. Hon. J. G. Talbot, M.P., Vice-Chairman Metropolitan Asylums Board; Sir Francis Sharp Powell, Bart, M.P., Vice-President; Sir Alexander Binnie, M.Inst.C.E.; Sir William Church, Bart, K.C.B., President Royal College of Physicians; Sir H. Howse, President of the Royal College of Surgeons; Sir Henry Norbury, K.C.B., Director-General Medical Department Royal Navy; Sir Homewood Crawford, President Municipal Officers' Association; Rear-Admiral A. FitzGeorge; Major Ronald Ross, C.B., F.R.S.; Principal Bodington, Yorkshire College; the Mayor of Lambeth; the Mayor of St. Mary-lebone; the Mayor of Bradford; W. Whitaker, B.A., F.R.S., Chairman; and the Council of the Institute.

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### EXAMINATIONS.

From April to June the following Examinations were held:—

#### PRACTICAL SANITARY SCIENCE.

May 1st and 2nd, 1903, London. 18 Candidates, 6 Certificates.  
June 12th and 13th, 1903, York. 4 Candidates, 1 Certificate.

#### INSPECTORS OF NUISANCES.

May 1st and 2nd, 1903, London. 115 Candidates, 45 Certificates.  
June 12th and 13th, 1903, York. 71 Candidates, 27 Certificates.  
June 26th and 27th, 1903, Dublin. 4 Candidates, 1 Certificate.

#### INSPECTORS OF MEAT AND OTHER FOODS.

May 8th and 9th, 1903, London. 7 Candidates, 5 Certificates.  
June 19th and 20th, 1903, Leeds. 9 Candidates, 7 Certificates.

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CANDIDATES WHO HAVE RECEIVED CERTIFICATES,  
APRIL—JUNE, 1903.

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*Practical Sanitary Science.*

1903, May	2.	LADDISON, OLIVE ROSALIE.
1903, May	2.	BATTLE, ALBERT ERNEST.
1903, May	2.	CORBY, SYDNEY FREDERICK.
1903, May	2.	GLOVER, FRANK ERNEST.
1903, May	2.	HUBBARD, WILLIAM H.
1903, June 13.		OAKES, HENRY HUGHES.
1903, May	2.	PEARSON, JACOB WALKER.

*Inspector of Nuisances.*

1903, June 13.		ALLAWAY, WILLIAM BERNARD.
1903, June 13.		BENNETT, THOMAS BUSHBY.
1903, May	2.	L BILBY, GEORGIANA CHARLOTTE.
1903, June 13.		BROOK, ALBERT.
1903, May	2.	BROOKES, CHARLES STRUTTON.
1903, May	2.	BROOKS, GEORGE HENRY.
1903, June 13.		BRUCE, THOMAS MACKINTOSH.
1903, June 13.		BULL, HERBERT.
1903, May	2.	CANTLOW, SAMUEL ALFRED.
1903, May	2.	CARTER, FREDERICK FRANCIS.
1903, May	2.	CLARK, THOMAS WILLIAM.
1903, May	2.	L COLLINS, KATHERINE.
1903, May	2.	COLLYER, HAROLD BERRY.
1903, May	2.	CRISP, JOHN HENRY
1903, June 13.		CROMPTON THOMAS.
1903, June 13.		DENTON, JOHN
1903, June 13.		L DICKINSON EMILY CAMTHORNE.
1903, June 13.		DUNSTAN, GEORGE HENRY.
1903, May	2.	L DUTOCH, KATHERINE LOUISE.
1903, June 13.		EVERS, RICHARD ARTHUR.
1903, May	2.	FARROW, STANLEY ARTHUR.
1903, May	2.	FAULDER, MARTIN HENRY.
1903, June 13.		FELL, JOHN WILLIAM.
1903, May	2.	GARGETT, GEORGE BARRASS.
1903, May	2.	GOREHAM, JAMES EDWARD.
1903, June 13.		GRADON, HENRY LAWRENCE.
1903, May	2.	GREGORY, PERCY OLIVER.
1903, June 13.		GRUNWELL, JOSEPH STRICKLAND.
1903, May	2.	HERBERT, STANLEY.
1903, May	2.	HERBERT, WILLIAM.
1903, June 13.		HOLLAND, ALBERT.
1903, June 13.		HOLMES, FRANK.



## CANDIDATES CERTIFICATED.

1903, June 13. HORSFALL, JOHN JOSEPH.  
 1903, June 27. HOUSTON, WILLIAM.  
 1903, June 13. HOWSON, WILLIAM.  
 1903, June 13. HUDSON, FRED.  
 1903, June 13. INNOCENT, HERBERT.  
 1903, May 2. JARVIS, FREDERICK WILLIAM.  
 1903, May 2. JOHNSON, HENRY.  
 1903, May 2. KENDALL, FRANCIS JAMES.  
 1903, June 13. KENDALL, GEORGE.  
 1903, May 2. KNIGHT, ALFRED CHARLES.  
 1903, May 2. LAISHLEY, ARTHUR.  
 1903, May 2. LAKE, SYDNEY LIONEL.  
 1903, June 13. LARGE, FREDERICK HENRI WILLIAM.  
 1903, May 2. LYON ROBERT.  
 1903, May 2. MANNING, HURBERT CHARLES HEARN.  
 1903, May 2. MANTOR, CHARLES.  
 1903, May 2. McDONALD, JOHN FORBES.  
 1903, May 2. MERWOOD, WILLIAM.  
 1903, May 2. L MILNER, FRANCES ELIZABETH.  
 1903, June 13. L OLIVER, EMMA.  
 1903, May 2. ORCHARD, RICHARD HENRY.  
 1903, May 2. PARDO, ARCHIBALD FRANK.  
 1903, May 2. PENNY, BERNARD.  
 1903, May 2. PHELAN, PATRICK.  
 1903, June 13. RAWLING, GEORGE HERBERT.  
 1903, May 2. RODERICK, GRIFFITH JOHN.  
 1903, May 2. SAVAGE, ARTHUR LEONARD.  
 1903, June 13. SCHOLEFIELD, JOHN E.  
 1903, June 13. L SCOTT, LILIAN.  
 1903, May 2. SHAW, ALBERT LOWIS.  
 1903, May 2. SIMCOX, EDGAR.  
 1903, May 2. SMITH, JAMES.  
 1903, May 2. SPINK, SAMUEL WILKEY.  
 1903, May 2. STANTON ARTHUR CORNWALL.  
 1903, May 2. SWAIN CHARLES WALTER.  
 1903, June 13. SWAINSTON WILLIAM ROBINSON.  
 1903, May 2. TILL, CHARLES LOUIS.  
 1903, May 2. TUCKER, ARTHUR EDGAR.  
 1903, June 13. WALKER, ARTHUR.  
 1903, May 2. WARR, ARTHUR GEORGE.  
 1903, May 2. WHITING, WALTER SYDNEY.

*Inspectors of Meat and other Foods.*

1903, June 20. ANDERSON, JAMES McLAREN.  
 1903, June 20. BENTLEY, WILLIAM HENRY THREKELD.  
 1903, June 20. BUCHAN, ALEXANDER WILLIAM.  
 1903, June 20. CHAPMAN, MATTHEW.  
 1903, June 20. COOPER, ROBERT.

- 1903, May 9. HOPKINS, HENRY ROBERT.  
 1903, May 9. PEECH, REGINALD.  
 1903, June 20. PILKINGTON, GEORGE.  
 1903, May 9. THOMAS, FREDERICK BARTLE.  
 1903, June 20. WATSON, JOHN GEORGE.  
 1903, May 9. WILSON, FRED.  
 1903, May 9. WRIGHT, SAMUEL DENNIS.

*Examination Questions.*

*Practical Sanitary Science.*—London, May 1st and 2nd, 1903.

1. How do relative dryness and humidity of the atmosphere respectively, affect health and comfort? What is the approximate average humidity of the atmosphere in Egypt and in London.
2. What is meant by "ground air" and "ground water"? What circumstances affect the movements of each, and how may they get polluted?
3. What is meant by the term "watershed"? Describe the various sources of water supply, and their respective advantages or disadvantages.
4. It is proposed to obtain a supply of water for a town by sinking a well in a stratified water-bearing formation. What points require to be taken into consideration in regard to possible pollution from villages or farms within the area controlled by the "cone of depression"? Illustrate the answer by sketches showing dip of strata, position of villages, &c.
5. How is heat transmitted through (a) water (b) air? Explain why the surface of a deep lake does not freeze so readily as that of a shallow one.
6. Mention the chief factors concerned in natural ventilation of a dwelling room; explain their effect.
7. Sketch and describe the best form of trap for disconnecting house drains from the the public sewer. Indicate the position in which it should be placed on the line of drain, and show how the connections should be made.
8. Sketch in section a good form of refuse destructor, and describe its working.

*The Candidates were examined viva voce on the 2nd.*

*Practical Sanitary Science.*—York, June 12th and 13th, 1903.

1. What is meant by "relative humidity of the atmosphere"? Describe two ways of ascertaining the degree of relative humidity.
2. What is Mont-golfiers Formula? Explain its use.
3. Indicate the nature and cause of the movements of (a) Ground-air, (b) Ground-water. How may these movements affect health?

4. Draw cross-sections of two kinds of Fire-proof Floors, and state their advantages and defects.

5. Explain the chemical action which takes place during the process of water softening, also that of re-carbonizing the water, and its object.

6. Sketch an appliance by means of which a house drain may be automatically flushed, and describe its action.

7. A sewer has to be laid through treacherous water-logged ground. Describe what precautions should be taken to ensure soundness of work. Give sketches and detailed information as to how you would execute the work.

8. A "septic" tank of sufficient capacity to hold one-and-half day's flow of sewage is to be constructed for a household of fifteen persons, supplied with water from a public main. Give the necessary dimensions of such a tank, and show by a sketch how it should be constructed.

*The Candidates were examined vivâ voce on the 13th.*

*Inspector of Nuisances.*—London, May 1st and 2nd, 1903.

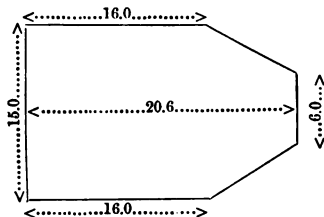
1. What are the nuisances likely to arise in the business of a fell-monger? What powers exist for dealing with these?

2. What means would you recommend for the disinfection of an ordinary cab or upholstered carriage in which a small-pox patient had been conveyed? How would you disinfect a privy midden which contained enteric infected stools?

3. What quantities of the following articles would you purchase for analysis:—Milk, Pepper, Coffee, Bread, Oatmeal, Tincture of Rhubarb, Mercury Ointment, Sweet Spirits of Nitre?

4. What appearances would you expect to find in the carcase of an animal which has suffered from advanced tuberculosis?

5. Show how you calculate the cubic contents of a room 10 feet in height, and of the form and dimensions shown in the accompanying sketch. How many adults should be allowed to sleep in it?



6. State fully how subsoils may be polluted in Towns and Villages.

7. Sketch to a large scale—

Bath trap and waste,

Slop sink with trap,

Section of a 50-gallon automatic flushing tank,

and mark the dimensions on each.

8. Draft what in your opinion would constitute suitable and sufficient headings for a Register of Houses let in Lodgings.

*The candidates were examined vivâ voce on the 2nd.*

*Inspector of Nuisances.*—York, June 12th and 13th, 1903.

1. Draw up in outline a report such as you would submit to your Committee showing the action taken with regard to nuisances, infectious diseases, inspection of workshops, bakehouses, milkshops, offensive trades, etc.
2. What steps would you take to secure the prompt removal of an accumulation of manure or other offensive material which was causing a serious nuisance? Describe in detail the procedure you would adopt.
3. Describe how you would proceed to satisfy yourself that a barrel of small fish, *e.g.*, sprats, was unfit for food.
4. State what means of ventilation are required to be provided for a habitable room without a fireplace.
5. Calculate the cubic contents of a bell tent 16 feet diameter and 12 feet high from floor to apex; the vertical portion of the sides being 2 feet high.
6. When water is obtained from a river what means should be taken to purify it for drinking purposes, to store it for use, and to distribute it to dwellings in a town?
7. Describe in detail how a house-drain should be laid, both in good and in bad ground. Give sketches showing various methods of jointing stoneware pipes.
8. How would you suggest dealing with the Sewage of a Small Infectious Hospital (20 beds) in a rural district where no system of sewerage is available?

*The Candidates were examined vivâ voce on the 13th.*

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*Inspectors of Nuisances.*—Dublin, June 26th and 27th, 1903.

1. Where by-laws are in force respecting houses let in lodgings, mention some of the special sanitary regulations affecting such houses (as set out in the Public Health Act, 1875) which would come within the inspector's cognizance.
2. How would you disinfect (*a*) bedding, (*b*) books, and (*c*) harness, saddlery, etc., after Small-pox?
3. Under what conditions would you condemn a carcass showing signs of tubercle, in the case of (*a*) a cow, (*b*) a pig?
4. Describe fully the process of laying on water from the main in the street to the sink, bath, and W.C., of a 12-roomed house. State diameter of the pipes to be used, and the depth below the ground at which they should be laid, the positions of the stop-cocks, the kind of taps, and the precautions necessary to prevent waste.
5. In the "Model By-Laws" issued by the Local Government Board (England), what provision is made for open space at the rear of a dwelling, and how is it to be measured?
6. Give the Cubic contents of an attic room, the floor area of which is 13 ft. 6 in.  $\times$  18 ft. The room has a flat ceiling 9 ft. from the floor, but the roof slopes on all sides with a pitch of  $45^\circ$  to meet the walls at a height of 6 feet from the floor.

7. Make sketches explanatory of the following :—
1. Connection between soil pipe and house drain.
  2. Inspection-chamber.
  3. Fresh air inlet.
  4. Anti-siphonage pipe.
8. What forms and books would you use in connection with the removal of patients to hospital, the disinfection of houses, and the exclusion of school-children from infected houses?

*The Candidates were examined vivâ voce on the 27th.*

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*Inspectors of Meat & other Foods.*—London, May 8th & 9th, 1903.

1. State the legal provisions for dealing with unsound meat, and the procedure to be adopted by an inspector.
2. Describe the appearance of the carcase of an ox which has died of anthrax, and state what procedure is necessary under the Contagious Diseases of Animals Acts.
3. Mention some of the most common causes of dropsy in animals, and describe the appearance of a dropsical carcase.
4. What is the appearance of a healthy lymphatic gland in a pig, and what glands would you specially examine for signs of tuberculosis?
5. What are the more common parasites found in the ox, sheep, and pig? Name the part of the animal usually most affected. State what the appearance of the dressed carcase is, and how you would proceed to examine a carcase supposed to be infected.
6. What is the normal temperature of cows, sheep, and birds? What change in temperature is found in a reaction to Tuberculin?
7. Describe the differences in form which would enable you to distinguish the livers of horses, oxen, sheep, and pigs.
8. Describe the appearance and other characteristics of wholesome beef, veal, pork, and mutton.
9. What preservatives are in common use for the preservation of foods? How are they usually applied in the case of (a) butchers' meat, (b) bacon or ham, (c) milk and butter?
10. Describe the provisions necessary for lighting, ventilation, water supply, and drainage of a well-constructed cowshed.
11. What conditions affect the proper bleeding of animals prepared for food, and what signs of insufficient bleeding do you recognise?

*The Candidates were examined vivâ voce on the 9th.*

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*Inspectors of Meat & other Foods.*—Leeds, June 19th & 20th, 1903.

1. What model bye-laws have been issued by the Local Government Board which are applicable to slaughter houses? State them in detail as far as you know.

2. What is margarine cheese and under what conditions can it be sold for food?

3. Under what Act, and in what way is provision made for the storage of milk? State the conditions under which milk ought to be kept, so as to ensure its purity and cleanliness.

4. Describe the contents of the thorax or chest; what organs are situated in it, and how are they placed? How is this cavity separated from the abdominal cavity, and what organs does the latter contain?

5. What parasitic diseases are said to be associated with fish, and in what kind of fish is the encysted worm of the parasite demonstrated?

6. Compare the bony skeleton of the horse with that of the ox, and state the chief points of difference in the carcass of these animals when exposed for sale.

7. What is frozen meat? How may it be recognised, and what procedure do you adopt in making an examination to ascertain its fitness for food?

8. State the chief indications of disease met with in meat exposed for sale, and state in detail how you would proceed to examine a consignment sent to the market and shipped from a home port. What are the diseases of cattle an inspecting officer should watch for?

9. In the examination of the carcass of an ox, the internal organs of which have been removed and cannot be inspected, describe accurately the appearances which would lead you to the conclusion—

(a) That the animal had died a natural death; or

(b) That it had suffered from a serious disease before being slaughtered.

10. Under what circumstances would you condemn the whole carcass of an animal which had suffered from tuberculosis?

*The Candidates were examined vivâ voce on the 20th.*

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## CONGRESS AND EXHIBITION AT BRADFORD.

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The Twenty-first Congress and Exhibition of the Institute was held at Bradford from July 7th to 11th, 1903.

Very suitable accommodation was provided for the meetings of the Congress in the Town Hall, Technical School, Mechanics' Institute, School Board Office, and The Church Institute, and excellent arrangements were made for the reception and convenience of members. The Exhibition was held at the Bellevue Volunteer Barracks.

The Congress was received by the Worshipful the Mayor (Alderman David Wade, J.P.) in the Town Hall.

A Public Luncheon was held in the Technical College, at which the Worshipful the Mayor presided, and the following toasts were proposed :—

*The King*, by the Chairman.

*The Sanitary Institute*, by the Chairman. Responded to by Mr. W. Whitaker, B.A., F.R.S.

*The Corporation*, by the Right Honourable the Earl of Stamford. Responded to by the Mayor.

The Worshipful the Mayor formally opened the Exhibition, and the Earl of Stamford, Sir Francis Sharp Powell, Bart., M.P., Councillor Godwin, and other prominent men were present.

The First General Meeting was held on July 7th. The Right Honourable the Earl of Stamford was installed as President of the Congress by Sir Francis Sharp Powell, Bart., M.P., Vice-President, and delivered his Inaugural Address.

The business of the Congress was divided into three Sections and eight special Conferences. Particulars of these are given in the programme of the Congress in the Supplement to Part I. of the Journal. During the Congress 79 addresses, lectures, and papers were read in 17 meetings. The Presidents' Addresses are published in the present number of the Journal. The papers read in the Sectional Meetings, with the discussions upon them, will be published in Part III. of the present volume, and the proceedings of the Conferences will be given in Part IV.

During the meeting excursions were made to Messrs. W. Fison & Co.'s Greenholme Mills, Burley-in-Wharfedale; Farnley Hall, Otley (Mr. Fawkes); Sir Titus Salt, Bart., Sons & Co.'s Works, Saltaire; Leeds new hospitals for infectious diseases; Subway in connection with insanitary area and sewage works; Eastby Sanatorium for treatment of phthisis; Bradford Waterworks at Gouthwaite, etc.

The members were most hospitably entertained, at Garden Parties, at the Clock House by Councillor J. A. and Mrs. Godwin; at Esholt Hall by the Misses Crompton Stansfield; and at Whinbrae Ben Rhydding by Dr. Rabagliati; and at the excursions by Messrs. Fison & Co., the Bradford Corporation, and others.

Circular tours were also made to the Municipal undertakings of the Corporation.

The numbers attending the Congress were as follows :—Delegates, 700; Members and Associates of the Institute, 451; Associates of the Congress, and other Subscribers, 305; Meeting of Lady Sanitary Inspectors, 20; making a total of 1,576.

Delegates were appointed by about 340 Sanitary Authorities and learned Institutions.

## REPORT OF CLOSING MEETING.

The closing meeting of the Congress was held on Friday, July 10th; W. Whitaker, B.A., F.R.S., Chairman of Council, presided.

Reports of the work done in the different Sections and Conferences, and the Resolutions passed, were read by the respective Secretaries, and the Resolutions were referred to the Council of the Institute for consideration.

Proposed from the Chair by W. Whitaker, B.A., F.R.S.:—

RESOLVED—"That The Sanitary Institute and members of the Congress desire to express their most sincere thanks to the Worshipful the Mayor and Mayoress and the Corporation of the City of Bradford, for the cordial manner in which the Congress has been received, and for the personal kindness and hospitality extended to the members."

Proposed by Alderman Coe, seconded by J. E. Worth, M.Inst.C.E.:—

RESOLVED—"That the hearty thanks of The Sanitary Institute and the Congress be presented to the Corporation of Bradford, the Governing Body of the Technical College, and the Bradford School Board, for their courtesy in placing at the disposal of the Congress handsome and suitable buildings for the various meetings."

Proposed by C. Childs, M.A., M.D., seconded by Isaac Young:

RESOLVED—"That the hearty thanks of the members of the Congress be given to the Bradford Board of Guardians; the Leeds Corporation; the Bradford Waterworks Committee; the Postmaster of Bradford; the Committees of the Bradford Club, the County and Conservative Club, the Liberal Club, and the Union Club; the Committee of the Bradford Subscription Library; the Committee of the Mechanics' Institute; the Misses Crompton Stansfield; Mr. Fawkes; Messrs. W. Fison & Co.; Councillor J. A. Godwin and Mrs. Godwin; Mrs. Moser; Dr. Rabagliati; Messrs. E. Ripley & Son, Dyers' Association; Sir Titus Salt, Bart., Sons & Co.; Messrs. W. & J. Whitehead; and others, for having so kindly shown hospitality at private receptions, by privileges accorded to members, and at the various excursions, which have added so greatly to the pleasure and enjoyment of the meeting."

Proposed by the Secretary of the Institute, seconded by J. Spottiswoode Cameron, B.Sc., M.D.:—

RESOLVED—"That the earnest thanks of the Congress are due to the Local General Committee, the various Sub-Committees, and the Local Secretaries, for their arduous labours in their several departments, and for their unremitting exertions in carrying out the many details in the organisation of the Congress, which have culminated in such a successful meeting."



Proposed by J. F. J. Sykes, D.Sc., M.D., seconded by W. Arnold Evans, M.D., D.P.H. :—

RESOLVED—"That the thanks of this meeting are due to the members of the Press for the reports which have been published of the proceedings, and which are largely instrumental in the dissemination of the teachings of the Congress."

Proposed by Alderman Dunn, seconded by W. Whitaker, B.A., F.R.S. :—

RESOLVED—"That the cordial thanks of the Congress be hereby presented to the President, the Right Honourable the Earl of Stamford, for presiding over the Congress, and for his instructive and comprehensive Inaugural Address."

#### AWARDS MADE AT THE EXHIBITION.

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NORTHERN VACUUM CLEANER Co., LTD.,  
For Vacuum Cleaners.

##### SILVER MEDALS.

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For Equilibrium and Compensating Ball, Bib, and Meter Taps.  
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For Self-acting Earth Closet.  
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For Cast-iron Drain Pipes and Fittings.  
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For Diamond Metropolitan Cooker.  
J. DUCKETT & SON,  
For Isolated Siphonic Closets.  
CHALMERS & Co.,  
For Dust Van.  
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For New Roadway Water Sprinklers.  
W. GLOVER & SON,  
For Dust Van.  
HORSFALL DESTROYER Co., LTD.,  
For Portable Destroyer.  
NORTHERN VACUUM CLEANER Co., LTD.,  
For Vacuum Cleaners.

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For Brougham Ambulance, with Convertible Stretchers.  
WILSON & STOCKALL,  
For Accident Ambulance Van.

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For Trapped Drain Box for Tramway Rails.  
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For Stoneware Conduits for Electric Cables.  
AMES CROSTA SANITARY Co.,  
For Surface Water Gullies.  
ANTI-VIBRATION INCANDESCENT LIGHTING Co.,  
For Anti-Vibration Incandescent Gas Lamps of various patterns.  
BURN BROS.,  
For Square Gully Plug.  
BURN BROS.,  
For "Times" Drain Plugs.  
CLAUGHTON BROS.,  
Cast and Wrought Lead Sanitary Pipe Fittings.  
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For "Newcliff" Intercepting Trap.  
JOSEPH CLIFF & SONS,  
For Hessel-Tiltman Scum Channel for Swimming Baths.  
JOSEPH CLIFF & SONS,  
For Imperial Registered Bath.  
A. T. COOPER,  
For Suction and Vacuum Pump.  
J. DEFRIES & SON,  
For Pale's and Barnes' Milk Purifier.  
DOULTON & Co.,  
For Gun Metal Mixing Valve for Hot and Cold Water.  
DOULTON & Co.,  
For Siphonic Closet.  
DOULTON & Co.,  
For Waverley Closet, For Paisley Water-Waste Preventor.  
GEORGE FREEMAN & Co., LTD.,  
For the "Priory" Aluminium Bath.  
GEORGE FREEMAN & Co., LTD.,  
For Brown's Penny-in-the-Slot Lock for Water-Closets.  
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For "Non-Slip" Materials.  
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J. HIRST & SONS,  
For Slop Shutes.  
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For Law's Improved Dry Seats.
- H. LEGGOTT & Co.,  
For Mackey's Steam Lids for Cooking Saucepans.
- HENRY LEGGOTT & Co.,  
For Leggott & Marsh's Smoke-consuming Independent Range.
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Brass Castings.
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For Mellin's Food.
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For Gully Scoops.
- C. PRATT & SON,  
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- J. S. REEKIE & SONS,  
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- F. M. RIMMINGTON & SON,  
For Aërated Waters, prepared from Bradford Corporation water,  
filtered through Porcelain.
- RONUK, LTD.,  
For Ronuk.
- SANITARIES, LTD.,  
For Combined Ash-bin Stand and Cinder Sifter.
- SANITARY BIN Co.,  
For Sanitary Bin with Self-locking Door.
- SHREDDED WHEAT Co.,  
For Shredded Wheat Biscuits.
- SLACK & BROWNLOW,  
For Germ Filter with Preliminary Strainer.
- J. STOTT & Co.,  
For Stott's Plenum Ventilation.
- SUN FAN Co., LTD.,  
For Ventilating Fans.
- H. H. THOMPSON.  
For Barrel Tilter.

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Fontalis Natural Water.

MATHER & PLATT,

Quick-opening Sewage Balance Valve.

H. D. SEARLES-WOOD,

*Chairman of Judges.*

E. WHITE WALLIS,

*Secretary.*

**FORTHCOMING MEETINGS.**

**LECTURES TO SANITARY OFFICERS.**

The Thirty-sixth Course of Lectures and Demonstrations to Sanitary Officers will commence on Monday, September 14th. The dates and subjects of the thirty-two Lectures and the several outside demonstrations as far as arranged are set out in the Calendar in the following pages. The Lectures are arranged to include the subjects scheduled for the Examination for Inspector of Nuisances held by the Institute and the Sanitary Inspectors Examination Board (formed by the Sanitary Institute and other bodies).

**PRACTICAL TRAINING FOR MEAT INSPECTORS**

for candidates preparing for the Examination for Inspectors of Meat and other Foods, conducted by The Sanitary Institute.

The Fourth Course will commence on Friday, October 2nd, at 7.30 p.m., and will consist of systematic Practical Training in the inspection of meat at a Cattle Market, including Demonstration on live cattle and sheep, slaughtering and dressing of animals, names and situations of the organs, diseases of animals, methods of stalling, arrangement of markets and byres, etc.

Demonstration will also be arranged at a knackers' yard, where instruction regarding the flesh and organs of the horse will be given.

The Course will continue for two months.

Demonstrations will be given at the Institute on Friday evenings and at a Market on Saturday afternoons.

In addition to the practical training at a Market the Course will include the Lectures on Meat and Food Inspection given in the Parkes Museum.

#### APPLIED HYGIENE FOR SCHOOL TEACHERS.

The Third Course, consisting of twenty-one Lectures, on Saturday mornings throughout the three terms of the year 1903, held partly at Bedford College for Women and partly at The Sanitary Institute, will be continued. The course includes practical demonstrations, and visits to schools and places where the application of Hygiene in practice may be seen. The various subjects—Sanitation of Schools, Physiology for Teachers, Psychological Attitude of Mind towards the Study of Childhood, will be dealt with by well-known authorities, and will be illustrated by experiments, diagrams, drawings, models, and lantern slides. Opportunities will be given to students to obtain practical acquaintance with the various subjects dealt with in the Laboratories of Bedford College, and for practical demonstration of Sanitary Appliances in the Parkes Museum.

The Course affords a preparation which The Sanitary Institute regards as suitable for the examination held by them for their Certificate in Practical Hygiene for School Teachers.

The Course is open to women students over 19 years of age who hold either a Teacher's Diploma or Certificate, or have had at least two years' experience in teaching in a secondary school, or who can produce satisfactory evidence that they will be able to benefit by the instruction afforded them.

Members and Associates of the Institute are admitted at half fees.

#### EXAMINATIONS.

The following Examinations have been arranged :—

*Inspectors of Nuisances under the Public Health Act, 1875.—*

Cardiff, July 17 and 18.	Newcastle-on-Tyne, Nov. 6 and 7.
Liverpool, July 24 and 25.	Manchester, Nov. 20 and 21.
Derby, October 23 and 24.	London, December 11 and 12.
South Africa, October 2.	Canada, December.

*Practical Sanitary Science.—*

Cardiff, July 17 and 18.	Newcastle-on-Tyne, Nov. 6 and 7.
Liverpool, July 24 and 25.	Manchester, Nov. 20 and 21.
Derby, October 23 and 24.	London, December 11 and 12.

*Inspectors of Meat and other Foods.—*

Bristol, Oct. 16 and 17.	London, Dec. 18 and 19.
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*Practical Hygiene for School Teachers—*

Derby, October.	Hastings, November.
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CALENDAR, JULY TO OCTOBER, 1903.

*As far as at present arranged.*

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m.

Exhibition Committee . . .	} Monday in the week preceding the
Congress and Editing Committee	} Council, at 4.30 p.m. & 5.30 p.m.
Museum and Library Committee.	} Tuesday in the week preceding the
Examination Committee . . .	} Council, at 4 p.m. and 5 p.m.
Special Purposes Committee . . .	} Wednesday in the week preceding
Finance Committee . . .	} the Council, at 4 p.m. and 5 p.m.
Parliamentary Committee . . .	As occasion requires.

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 1 p.m. on Saturday.

*Council and Committee Meetings are suspended during August and Sept., and the Museum and Library are closed on public holidays.*

JULY.

7-11. Annual Congress and Exhibition at Bradford.

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|---------|---|
| 17 F. } | Examination in Practical Sanitary Science and for Inspectors of |
| 18 S. } | Nuisances, Cardiff.   |
| 24 F. } | Examination in Practical Sanitary Science and for Inspectors of |
| 25 S. } | Nuisances, Liverpool.   |

AUGUST.

- 3 M. BANK HOLIDAY. Museum Closed.

SEPTEMBER.

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|-------|---|
| 14 M. | Lecture to Sanitary Officers at 7 p.m. Mechanical Physics: Laws of Motion, Hydraulics, &c., by E. J. Steegmann, M.B., M.R.C.S., D.P.H.                      |
| 16 W. | Lecture to Sanitary Officers at 7 p.m. Natural Forces, Light, Heat, Electricity, Chemistry, by E. J. Steegmann, M.B., M.R.C.S., D.P.H.                      |
| 18 F. | Lecture to Sanitary Officers at 7 p.m. The Atmosphere; Pressure and Combustion; Air; Combustion and Respiration, by E. J. Steegmann, M.B., M.R.C.S., D.P.H. |
| 19 S. | Inspection and Demonstration at Wimbledon Sewage Works at about 3 p.m., conducted by C. H. Cooper, M.INST.C.E., Engineer and Surveyor.                      |
| 21 M. | Lecture to Sanitary Officers at 7 p.m. Meteorology, by E. J. Steegmann, M.B., M.R.C.S., D.P.H.  |

- 23 W. Inspection and Demonstration in the District of Islington and at the Borough Disinfecting Station at 2 p.m. (number limited), conducted by James R. Leggatt, Superintendent, Public Health Department, Borough of Islington.
- 23 W. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, A: Introductory Remarks; Public Health Acts—English, Scotch, Irish; other Statutes relating to Public Health; By-Laws (Model, &c.), Regulations, Orders, Memoranda, &c., by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.
- 25 F. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, B: Public Health (London) Act; Metropolis Local Management Acts; By-Laws and Regulations in Force in the Administrative County of London, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.
- 26 S. Sessional Meeting at Birmingham. Discussion on Sewage Treatment, opened by Prof. A. Bostock Hill, M.D., and J. E. Willcox, ASSOC.M.INST.C.E., at 11 a.m., and visit of inspection in afternoon.
- 26 S. Inspection and Demonstration at the Southwark & Vauxhall Water Works, Hampton, at about 2.30.
- 28 M. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, C: Factory and Workshop Acts (including Bakehouse Legislation, 1878-1895), as they affect the Sanitary Inspector; Smoke Legislation; Food and Drugs Act, 1899, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.
- 30 W. Inspection and Demonstration at Knight & Sons' Soap Works, Silver-town, at 3 p.m.
- 30 W. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—General, A: Outdoor, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.

## OCTOBER.

- 2 F. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—General, B: Indoor, by J. Priestley, B.A. M.D., M.R.C.S., D.P.H.
- 2 F. Examination for Inspectors of Nuisances, South Africa.
- 2 F. Meat Inspectors' Course commences, 7.30 p.m.
- 3 S. Inspection and Demonstration at 3 p.m.
- 6 T. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—C: Offensive Trade Nuisances, &c., by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.
- 7 W. Inspection and Demonstration at L.C.C. Common Lodging House, Parker Street, Drury Lane, at 3 p.m.
- 8 Th. Lecture to Sanitary Officers at 7 p.m. Infectious Diseases, by A. Wellesley Harris, M.R.C.S., D.P.H.
- 9 F. Lecture to Sanitary Officers at 7 p.m. Methods of Disinfection, by Henry R. Kenwood, M.B., D.P.H., F.C.S.
- 10 S. Lecture to School Teachers at Bedford College at 10 a.m., by Miss H. Robertson, B.A., on Hygiene in Education.
- 10 S. Inspection and Demonstration at Ealing Sewage & Destructor Works, at 2.15 p.m., conducted by Charles Jones, M.INST.C.E., Borough Engineer and Surveyor.
- 10 S. Demonstration—Meat Inspectors' Course.
- 12 M. Lecture to Sanitary Officers at 7 p.m. Elementary Statistics, by Henry R. Kenwood, M.B., D.P.H., F.C.S.
- 13 T. Lecture to Sanitary Officers at 7 p.m. Water: Composition, Pollution, and Purification, by A. Wellesley Harris, M.R.C.S., D.P.H.
- 14 W. Inspection and Demonstration in the District of Islington and at the Borough Disinfecting Station at 2 p.m. (number limited), conducted by James R. Leggatt, Superintendent, Public Health Department, Borough of Islington.
- 14 W. Lecture to Sanitary Officers at 7 p.m. Details of Plumbers' Work, by J. Wright Clarke.
- 16 F. Demonstration—Meat Inspectors' Course.
- 17 S. Inspection and Demonstration at Battersea Municipal Milk Depot and Disinfecting Station at 3 p.m., conducted by G. F. McCleary, M.D., D.P.H.

- 17 S. Lecture to School Teachers at Bedford College, at 10 a.m., by Miss Robertson, B.A., on Hygiene in Education.
- 19 M. Lecture to Sanitary Officers at 7 p.m. Calculations, Measurements, and Plans and Sections, by W. Tyndale, M.INST.C.E.
- 21 W. Inspection and Demonstration at
- 22 Th. Lecture to Sanitary Officers at 7 p.m. Building Materials, by Prof. R. Elsey Smith, A.R.I.B.A.
- 23 F. Lecture to Sanitary Officers at 7 p.m. Sanitary Building Construction and Planning; Soil and Local Physical Conditions, by Prof. R. Elsey Smith, A.R.I.B.A.
- 23 F. } Examination in Practical Sanitary Science and for Inspectors of  
24 S. } Nuisances, Derby.
- 24 S. Inspection and Demonstration at Charing Cross Hospital New Buildings, at 2.30 p.m., conducted by Alfred Saxon Snell, F.R.I.B.A.
- 24 S. Lecture to School Teachers at Bedford College, at 10 a.m., by Miss Robertson, B.A., on Hygiene in Education.
- 24 S. Inspection and Demonstration at the Sewage and Destructor Works, Ealing, at 2.15 p.m., conducted by Chas. Jones, M.INST.C.E., Borough Engineer and Surveyor.
- 24 S. Demonstration—Meat Inspectors' Course.
- 26 M. Lecture to Sanitary Officers at 7 p.m. Ventilation; Warming, and Lighting, by Prof. R. Elsey Smith, A.R.I.B.A.
- 28 W. Lecture to Sanitary Officers at 7 p.m. Sanitary Appliances, by W. H. Maxwell, A.M.I.C.E.
- 28 W. Inspection and Demonstration at
- 30 F. Lecture to Sanitary Officers at 7 p.m. House Drainage, by W. H. Maxwell, A.M.I.C.E.
- 30 F. Demonstration—Meat Inspectors' Course.
- 31 S. Lecture to School Teachers at Bedford College, at 10 a.m., by Miss Robertson, on Hygiene in Education.
- 31 S. Demonstration and Inspection of a house in Stoke Newington, conducted by W. Matthews, Chief Sanitary Inspector.

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## MEMBERS AND ASSOCIATES

ELECTED APRIL-JULY, 1903.

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### MEMBERS.

\* Passed Practical Sanitary Science Examination.

† Passed Examination for Inspectors of Nuisances

- | Reg.<br>No. | Date of<br>Election. |  |
|-------------|----------------------|--|
| 1880        | 1903. June.          | *ADDISON, Olive Rosalie, 32, <i>Hillmarton Road, Holloway, N.</i>  |
| 1867        | 1903. Apr.           | ANDERSON, Alfred Jasper, M.A., M.B.OXON., D.P.H. CAMB., M.R.C.S.LOND., <i>M.O.H., Cape Town, South Africa.</i> |
| 1881        | 1903. June.          | †ANDREWS, Samuel Percy, 22, <i>Prospect St., Caversham. (Surveyor, Urban District Council.)</i>                |
| 1888        | 1903. Apr.           | ANTHONY, Charles, M.INST.C.E., F.R.A.S., <i>Ridgmont, Hereford.</i>  |



Reg. No.	Date of Election.	
1689	1903. July.	ARCHIBALD, Edmund Douglas, M.A.OXON., <i>Constitutional Club, Northumberland Avenue.</i>
1682	1903. June	*BATTLE, Albert Ernest, <i>Kenilworth, Oakfield Road, Ilford.</i>
1684	1903. June.	BENNETTS, James Percy. <i>Engineer and Surveyor, Harrow-on-Hill, W.</i>
1685	1903. June.	BORG, Ernest Andrew, <i>Borough Surveyor, Margate.</i>
1686	1903. June.	BRISCOE, Joseph Thomas, <i>Surveyor, Laurel Dene, Southbury Road, Enfield.</i>
1687	1903. June.	BUTTON, Fred Ernest <i>Borough Engineer's Office, Darwen.</i>
1700	1903. July.	CALLARD, Thomas Black, 6, <i>Hillside, Cricklewood, N.W.</i>
1689	1903. Apr.	CLAY, Felix, 19, <i>Buckingham Street, Strand, W.</i>
1688	1903. June.	COALES, Harold Frederick <i>Surveyor, Urban District Council, Sunbury-on-Thames.</i>
1674	1903. May.	COGGAN, William, <i>Clarendon House, Norwood Road, Herne Hill, S.E.</i>
1688	1903. June.	*CORBY, Sydney Frederick, 15, <i>The Broadway, Herne Hill.</i>
1702	1903. July.	FERNIE, Alexander A., L.R.C.P.&S.E.D., 1, <i>Municipal Office Lane, Calcutta. (District Health Officer, Calcutta.)</i>
1673	1903. May.	FOWLER, Gilbert John, M.SC., F.I.C., <i>Broad Oak, Urnston, nr. Manchester. (Superintendent Chemist Manchester Sewage Works.)</i>
1680	1903. June.	*GLOVER, Frank Ernest, 41, <i>Drayton Park, Highbury, N.</i>
1708	1903. July.	HILLS, Osborn Cluse, A.R.I.B.A., 360, <i>Mare Street, Hackney, N.E. (District Surveyor).</i>
1681	1903. June.	HINES, Charles Edward <i>Surveyor and Inspector, The Council House, Windermere.</i>
1670	1903. Apr.	HOLMES, William, 24, <i>Arundel Street, Wakefield.</i>
1692	1903. June.	HOSKINS, Nandy W., <i>Malabar, New Eltham, S.E.</i>
1688	1903. June.	*HUBBARD, William Henry, 56, <i>Alexandra Road, St. Leonards-on-Sea.</i>
1684	1903. June.	JONES, Harry Oscar, <i>Borough Engineer's Office, Folkestone.</i>
1676	1903. May.	KING, James, M.R.C.V.S., <i>The Metropolitan Cattle Market, London, N, and Park Nook, Clay Hill, Enfield, N.</i>
1677	1903. May.	*MALINS, Maurice, 1, <i>Wilton Road, Sparkhill, near Birmingham.</i>
1671	1903. Apr.	MARSDEN, Fred, <i>City Surveyor's Office, Town Hall, Bradford.</i>
1701	1903. July.	MARTIN, John Middleton, B.A., M.B., B.C., D.P.H., <i>M.O.H., 6, Whitehall, Stroud, Glos.</i>
1704	1903. July.	MILLARD, Charles Killick, D.SC.(PUB.HEALTH), M.D., <i>M.O.H., Gilroes, Leicester.</i>

Reg. No.	Date of Election.	
1678	1903. May.	MORTON, William John, 7, <i>Fitzroy Square, London.</i>
1706	1903. July.	NEAVE, James, <i>Weston, New London Road, Chelmsford.</i>
1707	1903. July.	*OAKES, Henry Hughes, <i>Heddon House, Tennyson Avenue, Bridlington.</i>
1708	1903. July.	ROBERTSON, James, <i>St. Johns, Antigua, B.W.I. (City Clerk and Chief Executive Officer, St. Johns City Board).</i>
1705	1903. July.	SLATER, John, B.A., F.R.I.B.A., <i>Vice-President, Royal Institute of British Architects, 46, Berners Street, W.</i>
1672	1903. Apr.	SYMON, George, <i>Centenary House, Blaydon-on-Tyne.</i>
1695	1903. June.	TAYLOR, Gerard Charles, M.A., M.D., D.P.H.CANTAB., <i>5, Park Lane, Stoke Newington.</i>
1696	1903. June.	TAYLOR, Henry Thomas, 24, <i>Fountain Street, Tranmere, Birkenhead.</i>
1679	1903. May.	TAYLOR, Percy, <i>Town Hall, Ilford.</i>
1697	1903. June.	VERSTURME-BUNBURY, C. H., <i>Captain R. Engineers, Marston House, Glastonbury.</i>
1673	1903. Apr.	WADDINGTON, J. Paget, M.INST.C.E., <i>The Town Hall, Marylebone Lane, W.</i>
1709	1903. July.	WALKER, J. T. Ainslie, F.C.S., 6, <i>Selwyn Road, Upton Manor.</i>
1683	1903. June.	WHEATLEY, James, M.O.H., <i>Shropshire C.C., Severn House, Shrewsbury.</i>
1698	1903. June.	WILSON, Thomas, <i>Town Councillor, Hooley Bank, Rochdale Road, Bury.</i>

## ASSOCIATES.

† Passed Examination for Inspectors of Nuisances.

M Marked thus have passed the Examination of the Institute for Inspectors of Meat and Other Foods.

2837	1903. July.	†ALLAWAY, William Bernard, <i>Westerton, Cults, Aberdeenshire.</i>
2880	1903. May.	†ALLEN, Frederick Noye, 32, <i>Durham Avenue, St. Jude's, Plymouth.</i>
2881	1903. May.	†ARMITAGE, F. L., 9, <i>Upper Mill Hill, Leeds.</i>
2809	1903. June.	†BELLAMY, Page W., 11, <i>York Road, Farnborough.</i>
2810	1903. June.	†BLACK, James Douglas, 5, <i>Brighton Place, St. Vincent Street, Ladywood, Birmingham.</i>
2888	1903. Apr.	†BLAIR, William, 4, <i>Noble Place, Leith.</i>
2838	1903. July.	†BOOTH, J. H. L., 72, <i>Roe Lane, Southport.</i>

- | Reg.<br>No. | Date of<br>Election. |   |
|-------------|----------------------|---|
| 2882        | 1903. May.           | ‡BOUND, William, <i>Bourne College, Quinton, Worcester.</i>                         |
| 2889        | 1903. July.          | ‡BRADLEY, Josiah, <i>Carr Mount, Rawtenstall.</i>                                   |
| 2888        | 1903. Apr.           | ‡BRIGG, Thomas, 51, <i>Bracewell Street, Nelson, Lancs.</i>                         |
| 2890        | 1903. Apr.           | ‡BROOKE, Fred, 105, <i>Cross Lane, Great Horton, Bradford.</i>                      |
| 2892        | 1903. July.          | ‡BROOKES, Charles Strutton, 27, <i>Franconia Road, Clapham, S.W.</i>                |
| 2891        | 1903. June.          | ‡BROOKS, George Henry, 78, <i>Lansdowne Road, Walthamstow.</i>                      |
| 2890        | 1903. July.          | ‡BULLOCK, James, 18, <i>Swale Street, Poplar, E.</i>                                |
| 2893        | 1903. July.          | ‡CARTER, Frederick Francis, 4, <i>Tyndall Road, Leyton.</i>                         |
| 2861        | 1903. Apr.           | ‡CARTER, Matthew, 102, <i>Blackman Lane, Leeds.</i>                                 |
| 2862        | 1903. Apr.           | ‡CAWTHORNE, Thomas, 104, <i>Hoole Street, Walkley, Sheffield.</i>                   |
| 2854        | 1903. July.          | ‡CLARK, Thomas William, 10, <i>Queen's Terrace, St. John's Wood, N.W.</i>           |
| 2883        | 1903. May.           | ‡COCKIN, Lucy Grace, 13, <i>Alexander Road, Burton-on-Trent, Staffs.</i>            |
| 2891        | 1903. July.          | ‡COLLINS, Allen, 133, <i>Ecclesnew Rd., Salford.</i>                                |
| 2819        | 1903. June.          | ‡COLLINS, Kathleen, 64, <i>Dartmouth Square, Leeson Park, Dublin.</i>               |
| 2812        | 1903. June.          | ‡COLLYER, Harold Berry, <i>The Manse, Cratfield, Halesworth.</i>                    |
| 2863        | 1903. Apr.           | ‡COOPER, Fred, 27, <i>Durham Avenue, Plymouth.</i>                                  |
| 2864        | 1903. Apr.           | ‡CORDINGLEY, John James, 73, <i>Station Road, Facit, near Rochdale.</i>             |
| 2855        | 1903. July.          | ‡CRISP, John Henry, 43, <i>St. Mary Street, Woolwich</i>                            |
| 2822        | 1903. June.          | ‡CROWTER, George Edward, <i>High Street, Godstone, Surrey.</i>                      |
| 2884        | 1903. May.           | ‡DAVIES, A. Ewart, 61, <i>Windmill Road, Brentford.</i>                             |
| 2865        | 1909. Apr.           | ‡DAVIES, Henry James, 73, <i>Melbourne Road, Horsfield, Bristol.</i>                |
| 2866        | 1903. Apr.           | ‡DAVIS, Frederick, <i>Canterbury, New South Wales.</i>                              |
| 2885        | 1903. May.           | ‡DITMAS, Eupheima, <i>General Post Office, Cape Town, South Africa.</i>             |
| 2886        | 1903. May.           | ‡DUFTON, Percy, 12, <i>Somerset Road, Pudsey, Yorks.</i>                            |
| 2867        | 1903. Apr.           | ‡EDGERTON, Lionel George, 1, <i>Theresa Villas, New Road, Belfont.</i>              |
| 2867        | 1903. May.           | ‡EGNER, George, 34, <i>George Street, Lancaster.</i>                                |
| 2856        | 1903. July.          | ‡EVERS, Richard Arthur, 20, <i>Melville Terrace, Edinburgh.</i>                     |
| 2813        | 1903. June.          | ‡FAULDER, Martin Henry, 39, <i>Scawen Road, Deptford Park, S.E.</i>                 |
| 2842        | 1903. July.          | GALLICO, Eva, 20, <i>Oseney Crescent, Camden Road, N.W.</i>                         |
| 2823        | 1903. June.          | ‡GARGETT, George Barrass, <i>Prospect House, Buchanan Street, Stockton-on-Tees.</i> |

Reg. No.	Date of Election.	
2924	1903. June.	‡GOREHAM, James Edward, <i>Sulber, Station Road, Greenhithe.</i>
2888	1903. May.	‡HENLEY-LEWIS, Timothy William, <i>Brook Lawn, Queen's Road, Teddington.</i>
2925	1903. June.	‡HERBERT, Stanley, 74, <i>Bendemere Road, Putney, S.W.</i>
2926	1903. June.	‡HERBERT, William, 10, <i>Dolby Road, Fulham, S.W.</i>
2898	1903. May.	‡HICKMAN, Valentine Richard, 4, <i>Granby Place, Queen Street, Scarborough.</i>
2980	1903. May.	‡HIND, William, <i>Brewery Street, Kimberley, Nottingham.</i>
2944	1903. July.	‡HOLLAND, Albert, <i>The Sanatorium, Hedon Road, Hull.</i>
2891	1903. May.	‡HUMPHRIES, Edward, 294, <i>Petre Street, Sheffield.</i>
2945	1903. July.	‡INNOCENT, Herbert, <i>Sanitary Department, 2, Priory Place, Doncaster.</i>
2808	1903. Apr.	‡IRVINE, William, <i>Newtown of Pitcairns Dunning, Perthshire.</i>
2957	1903. July.	‡JARVIS, Frederick William, 24, <i>Prince's Square, Kennington Park Road, S.E.</i>
2892	1903. May.	‡JOHNSON, William, 115, <i>George Street, Willington Quay, Northumberland.</i>
2968	1903. Apr.	‡JONES, Harry Lee, 57, <i>Love Lane, Denbigh.</i>
2893	1903. May.	‡JONES, John Lewis, <i>Bourne College, Quinton, near Birmingham.</i>
2927	1903. June.	‡KENDALL, Francis James, 95, <i>Pembroke Road, Seven Kings, Ilford.</i>
2870	1903. Apr.	‡KEMP, Mrs. Ada, 32, <i>Sheaf Gardens, Sheffield.</i>
2828	1903. June.	‡LAISHLEY, Arthur, 57, <i>Beach Farm Road, Southsea.</i>
2894	1903. May.	‡LAW, Ernest Eugene, <i>Station Road, Thorney, Peterborough.</i>
2895	1903. May.	‡LAWRENCE, James Linton, 7, <i>Archibald Place, Edinburgh.</i>
2896	1903. May.	‡LOFLEY, Francis John, 59, <i>Sutton Street, Brookhill, Sheffield.</i>
2829	1903. June.	‡LOVEDAY, William Frederick, <i>Town Hall, Milton Road, Stoke Newington.</i>
2871	1903. Apr.	‡LUMSDEN, Alexander, Junr., 67, <i>John St., Aberdeen.</i>
2897	1903. May.	‡LUNN, Archibald Thomson, 4, <i>Mertoun Place, Edinburgh.</i>
2830	1903. June.	‡MANNING, Hubert Charles Hearn, 10, <i>Rollscourt Avenue, Herne Hill, S.E.</i>
2814	1903. June.	‡MANTOR, Charles, 90, <i>Northumberland Park, Tottenham.</i>
2858	1903. July.	‡MCDONALD, John Forbes, 45A, <i>Gaisford St., N.W.</i>
2872	1903. Apr.	‡McDOUGAL, James Liddle, 5, <i>West Glebe, Dalkeith, N.B.</i>
2873	1903. Apr.	‡McLAREN, William, <i>Greenhead Gate, Corehouse, Lanark.</i>
2874	1903. Apr.	‡McRUVIE, Duncan, <i>Bramble Park, Leven, Fife.</i>

- | Reg.<br>No. | Date of<br>Election. |  |
|-------------|----------------------|--|
| 2931        | 1903. June.          | †MERWOOD, William, 111, <i>Carisbrooke Road, Newport, I. of W.</i>           |
| 2920        | 1903. June.          | †MILNER, Frances E., 2, <i>The Terrace, Lostwithiel, Cornwall.</i>           |
| 2998        | 1903. May.           | †MORTON, Robert Norman, 2, <i>Pool Bank Street, Nuneaton.</i>                |
| 2999        | 1903. May.           | †NORTON, Charles Henry, 86, <i>Mill Fold Road, Middleton, Manchester.</i>    |
| 2959        | 1903. July.          | †OLIVER, Emma, <i>Saunders Grn, Stalybridge, Cheshire.</i>                   |
| 2915        | 1903. June.          | †ORCHARD, Richard Henry, 22, <i>Oakfield Road, Downs Road, Clapton, N.E.</i> |
| 2932        | 1903. June.          | †PEECH, Reginald, M.R.C.V.S., <i>Rotherham, Yorks.</i>                       |
| 2900        | 1903. May.           | †PEET, James, 113, <i>Chester Road, Southport, Lancs.</i>                    |
| 2901        | 1903. May.           | †PENDLEBURY, John C., 109, <i>Elliott Street, Tyldesley, Lancs.</i>          |
| 2916        | 1903. June.          | †PENNY, Bernard, 33, <i>Orlands Road, Clapham Common, S.W.</i>               |
| 2933        | 1903. June.          | †PENTLAND, Catherine Margaret, <i>Rosario, Rosetta Park, Belfast.</i>        |
| 2975        | 1903. Apr.           | †PETRIE, John R., <i>Aberlour, Banff, N.B.</i>                               |
| 2943        | 1903. July.          | REIDY, Daniel, 11, <i>Victoria Street, S. Hackney, N.E.</i>                  |
| 2946        | 1900. July.          | †RODERICK, Griffith John, 28, <i>New Road, Llandilo.</i>                     |
| 2902        | 1903. May.           | †ROE, William Thomas, <i>Trindon Grange, Co. Durham.</i>                     |
| 2947        | 1903. July.          | †ROSS, A. J., 5, <i>High Street, Skipton, Yorks.</i>                         |
| 2934        | 1903. June.          | †SAVAGE, Arthur Leonard, 43, <i>Jedburgh Street, Clapham Common, S.W.</i>    |
| 2979        | 1903. Apr.           | †SCOTT, George Lattimore, 115, <i>Lower Road, Rotherhithe, S.E.</i>          |
| 2935        | 1903. June.          | †SIMCOX, Edgar, <i>Cornholme, near Todmorden.</i>                            |
| 2948        | 1903. July.          | †SHILLITO, John Arthur, 38, <i>Havelock Ter., York.</i>                      |
| 2977        | 1903. Apr.           | †SMEARDON, John, 23, <i>Gully Terrace, Penarth, Glam.</i>                    |
| 2949        | 1903. July.          | †SMITH, Harry, 277, <i>Legrams Lane, Bradford.</i>                           |
| 2950        | 1903. July.          | †SPINK, Samuel Wilkey, <i>Butleigh, Riffel Road, Willesden Green.</i>        |
| 2921        | 1903. June.          | †STANTON, Arthur Cornwall, 74, <i>Fernhead Road, Paddington, W.</i>          |
| 2917        | 1903. June.          | †STEVENS, Wilfred John, 154, <i>Thatto Heath Road, St. Helens.</i>           |
| 2903        | 1903. May.           | †SUTTON, John Arthur, 80, <i>Kentwood Road, Nottingham.</i>                  |
| 2978        | 1903. Apr.           | †THOMSON, Peter, 2, <i>Maxwell Place, Uddingston, near Glasgow.</i>          |
| 2938        | 1903. June.          | †TILL, Charles Samuel, 47, <i>Crescent Road, Upton Manor, West Ham.</i>      |
| 2979        | 1903. Apr.           | †TRAINER, Richard Short, 22, <i>The Parade, Berwick-on-Tweed.</i>            |
| 2918        | 1903. June.          | †TUCKER, Arthur Edgar, <i>Purston, Brackley, Northants.</i>                  |

- | Reg.<br>No. | Date of<br>Election. |  |
|-------------|----------------------|--|
| 2904        | 1903. May.           | ‡WADE, William John, 133, <i>Church Street, Runcorn, Chester.</i>                |
| 2900        | 1903. July.          | ‡WHITE, Albert, 35, <i>Duncombe Road, Hornsey Rise.</i>                          |
| 2901        | 1903. July.          | ‡WHITING, Walter Sydney, 99, <i>Shearar Road, Portsmouth.</i>                    |
| 2905        | 1903. May.           | ‡WHITMARSH, William, 10, <i>Waterloo Road, Shepton Mallet, Somerset.</i>         |
| 2906        | 1903. May.           | WILD, Walter, 156, <i>Chester Street, Birkenhead.</i>                            |
| 2907        | 1903. May.           | ‡WILCOX, Arthur James, <i>Gelly Bren, Abersychan, Monmouthshire.</i>             |
| 2951        | 1903. July.          | ‡WILLIAMS, John, 9, <i>Scarisbrick Avenue, Litherland.</i>                       |
| 2908        | 1903. May.           | ‡YATES, Joseph, 1, <i>Wentworth Avenue, Field Street, Holderness Road, Hull.</i> |

## CONTRIBUTIONS AND ADDITIONS TO LIBRARY

DURING APRIL TO JULY, 1903.

\* \* For publications of Societies and Institutions, &c., see under  
"Academies."

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- Transactions of the American Climatological Association for the year 1902. Volume XVIII. 270 pp., 4to. Philadelphia, 1902. *The Association.*
- Toronto.** Seventeenth Annual Meeting of the Association of Executive Health Officers of Ontario, held at the town of Berlin on 9th and 10th September, 1902. 118 pp., 8vo. Toronto, 1902. *The Association.*
- Ontario.** The Proceedings of the Ontario Association of Architects, March, 1903; compiled from the Minutes. 183 pp., 4to. Ontario, 1903. *The Association.*

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- *Royal Meteorological Society.* The Meteorological Record, 83 pp. 232 pp., 4to. London.
- *Society of Engineers.* Transactions for 1902, and General Index, 1857 to 1902. 348 pp., 8vo. London, 1903.

353145 *The Society.*

**London.** *British Association for the Advancement of Science.* Report of the Seventy-second Meeting held at Belfast in September, 1902. 924 pp., 8vo. London, 1903. *The Association.*

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*Surg.-Gen. Sir Wm. Taylor, K.C.B., Director-General.*

**Bayard, Francis Campbell, LL.M., F.R.Met.Soc.** English Climatology. 1881-1900. Excerpt from the *Quarterly Journal of the Royal Meteorological Society*, Vol. XXIX., No. 125. January, 1903.

*The Author.*

**Board of Agriculture.** Annual Reports of Proceedings under the Diseases of Animals Acts, the Markets and Fairs Acts, etc., for the year 1902. 90 pp., 8vo. London, 1903. *The Board.*

**Bowstead, William.** The Law relating to Factories and Workshops as amended and consolidated by the Factory and Workshop Act, 1901. 343 pp., 8vo. London, 1901.

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**Budapest.** Erdély Nevezebb Fűrdői. 1902. Ben. Tanulmány. 307 pp., 8vo. Budapest, 1903. *Lady Galton.*

**Chalmers, A. K., M.D., D.P.H.** The Death-rate in one-apartment Houses: an inquiry based on the census returns, 1901. 24 pp., 8vo. Glasgow, 1903. *The Author.*

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*Arthur R. Reynolds, M.D., Commissioner.*

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**Dembo, J. A., M.D.** The Jewish Method of Slaughter compared with other methods from the Humanitarian, Hygienic, and Economic points of view. 111 pp., 8vo. London, 1894.

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- mating injuries. Fourth Edition, revised by Banister F. Fletcher, A.R.I.B.A., etc., and H. Phillips Fletcher, A.R.I.B.A., A.M.I.C.E., etc., 157 pp., 8vo. London, 1902.  
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*The Author.*
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- Hutton, Walter S.** Works Manager's Handbook of Modern Rules, Tables, and Data for Civil and Mechanical Engineers, Millwrights, and Boiler Makers. 410 pp., 4to. London, 1890.  
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- Ikin, Alfred E., B.Sc.Lond. (Hons.), L.C.P., and Lyster, Robert A., M.B., B.Ch., B.Sc.Lond., D.P.H.** Advanced Hygiene: for the Advanced Examination of the Board of Education. 300 pp., 8vo. London.  
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*Baron Saneyoshi.*
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- Kaye, J. R., M.B., C.M., D.P.H.** Lecture on Plumbing in Relation to Public Health. Reprinted from "Domestic Engineering," March, 1903. 16 pp., 8vo.  
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- Kelynack, T. N., M.D., M.R.C.P.** The Selection of Cases of Pulmonary Tuberculosis for Sanatorium Treatment. Reprinted from the *Edinburgh Medical Journal*. 5 pp., 8vo. Edinburgh, 1903.  
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- Kenwood, H. R., M.B., D.P.H., F.C.S.** Public Health Laboratory Work. Third Edition. 606 pp., 4to. London, 1903.  
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- Dr. R. W. Johnston's Report on the general sanitary circumstances of the Tyldesley-with-Shakerley Urban District, and on the prevalence of enteric fever therein. 11 pp., fcap. London, 1903.
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- Lyster, Robert A., B.Sc.Lond., D.P.H.** First-Stage Hygiene: for the Elementary Examination of the Science and Art Department. 199 pp., 8vo. London, 1900.  
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**Harrow-on-the-Hill, 1902** .. *John Fletcher Little, M.B., M.R.C.P.*  
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**Huddersfield, 1903 (1st qtr.)** *S. G. Moore, M.B., D.P.H.*  
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**Kingston-upon-Thames, 1902** *H. Beale Collins, D.P.H., M.O.H.*  
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**Lowestoft, 1902** .. .. *A. Marshall, D.P.H.*  
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**Montreal, 1901** .. .. *Dr. L. Laberge.*  
**Newcastle-on-Tyne, 1902** .. *H. E. Armstrong, D.Hy., M.R.C.S.*  
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**Stoke Newington, 1902** .. .. *Henry R. Kenwood, M.B., D.P.H.*  
**Southport, 1902** .. .. *John J. Weaver, M.R.C.S., L.S.A.Lond.*  
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**Tunbridge Wells, 1902** .. .. *Wm. Stamford, M.O.H.*  
**Warwickshire, 1903** .. .. *A. Bostock Hill, M.Sc., M.D.*  
**Willesden, 1902** .. .. *W. Butler, M.B., C.M., D.P.H.*  
**Woolwich, 1902** .. .. *Sidney Davies, M.A., M.D.*  
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——— The Raising of Water from Deep Wells and Borings by Compressed Air. 14 pp., 8vo. *The Author.*

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- Mitchell, C. F.** Building Construction and Drawing: First Stage in Elementary Course. Sixth Edition. 392 pp., 8vo. London, 1902. *The Publisher (B. T. Batsford).*
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- Paris.** *Annales des Ponts et Chaussées.* 1<sup>re</sup> Partie: Mémoires et Documents relatifs à l'Art des Constructions et au Service de l'Ingénieur. 1902, 4<sup>e</sup> trimestre. 375 pp., 8vo. Paris.
- 2<sup>e</sup> Partie: Lois, Décrets, Arrêtés et autres Actes concernant administration et le personnel des Ponts et Chaussées, et Documents administratifs concernant les Pays étrangers. 1903. 311 pp., 8vo. Paris. *L'Inspecteur-Général Secrétaire de la Commission.*
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- Stretford.** Report of the Surveyor on Concrete Flag Pavements. 12 pp., 4to. Stretford. *Ernest Worrall.*
- Thumm, Dr. R., and Pritzkow, Dr. A.** Versuche über die Reinigung der Abwässer von Tempelhof bei Berlin durch das biologische Verfahren. 163 pp., 8vo. Berlin, 1903. *The Author.*
- Wallace, John, C.E.** Sanitary Engineering in India, for the use of Municipalities and Engineers. 238 pp., 4to. Bombay, 1893. *Lady Galton.*
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In addition to the books presented to the Library, the following works connected with Sanitary Science have been published during the quarter:—

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- Durham, H. E.** Report of the Yellow Fever Expedition to Para of the Liverpool School of Tropical Medicine and Medical Parasitology. Memoir VII. London: Longmans, Green & Co.
- Kuhn, Dr. Philalethes:** Inoculation against Malaria. Translated by H. A. Nesbitt, M.A. London: H. K. Lewis.
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- Plehn, Dr. Albert.** Die Malaria der Afrikanischen Negerbevölkerung besonders mit Bezug auf die Immunitätsfrage. 1902. Jena: Gustav Fischer.
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- Touret, A.** Médecin Veterinaire: La Lait et son Industrie. Paris.
- Richertd, J. Gust.** Artificial Infiltration Basins for Potable Water. London: Hodgetts, Limited.
- Wilson, Edward T.** Disinfectants and Antiseptics: How to use them. London: H. K. Lewis.
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- Clarke, J. Wright.** Practical Science for Plumbers, Engineers, &c. Sanitary Publishing Co.
- Sachs, Edwin C.** Facts on Fire Prevention. B. T. Batsford.
- Reeson, Joseph.** Public Provisions of the Metropolis Water Act.
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- Snell, C. R.** Modern Suburban Homes. London: B. T. Batsford.

## EXHIBITS ADDED TO THE MUSEUM.

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	<i>Horsfall Destructor Co.</i>
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## GENERAL NOTES.

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KIMBERLEY. ANNUAL REPORT OF THE SANITARY DEPARTMENT FOR 1902.—A Report just received from J. S. Dunn, the Sanitary Inspector of the Borough of Kimberley, shows the active efforts that are being made by the Sanitary Department to secure the health of the community. The native location, and the absence of a general sewerage system, render the conditions difficult, but the fact that 11,100 inspections have been made during the year shows that energetic work is being done. Now that Lectures and Training for Sanitary Inspectors are being arranged, and as the Institute has established Examinations in South Africa, it is hoped that there will be no difficulty in obtaining qualified officers to carry on this work.

## TUBERCULOUS MEAT.

A circular has recently been issued by the Corporation of London calling attention to the symptoms of tuberculosis in carcases and in the living animals.

The Corporation of London has for many years instituted legal proceedings (resulting in many instances in the infliction of heavy fines and terms of imprisonment) against farmers, butchers, and other persons for sending diseased or unwholesome meat into the City Markets, or for exposing the same for sale. It would appear that in some cases such offence may have been due to gross carelessness, or even ignorance of the symptoms of disease in the living animal, or of the appearance of unsound carcases after slaughter.

The following indications of Tuberculosis, both in the carcase and in the living animal, drawn up by Dr. Collingridge, the Medical Officer of Health

for the City, and Mr. King, Veterinary Inspector to the Corporation, are therefore published as guidance for the use of persons dealing in meat, and all salesmen and dealers are earnestly desired to bring them to the notice of those specially interested.

This appeal is made as, from experience, it has been made manifest that salesmen within the City are anxious and willing to do anything in their power, in the interests alike of the public health and legitimate trading, to prevent unsound meat being offered for sale.

#### SIGNS OF TUBERCULOSIS IN THE CARCASS AND ORGANS.

At the time of slaughter, when the carcase and all the organs are available for examination, there should be no difficulty in detecting the presence of tubercle.

**BEEF.**—Any unnatural appearance should be looked for, and any case of doubt referred to an Inspector before sending meat to market. The following are indications of disease:—

- (i.) The kernels on the paunch and in the fat round the entrails are enlarged, and may be hard and gritty, or soft and cheesy, according to the stage of the disease.
- (ii.) The lungs are studded with small masses containing matter, varying from the size of a pin's head and upwards, the larger being gritty when cut into.

If there are many of these masses they may form bunches like grapes, and the disease often spreads to the skirt, and the inner side of the ribs, when the lungs grow to the ribs and skirt, and have to be cut away in dressing.

- (iii.) As the disease progresses the masses of tubercle are found on the other side of the skirt, and inside the flanks, into which the intestines sometimes grow.

"Stripping" or removal of skin from the inside of the ribs or flanks only partially removes the signs of disease, while it always arouses suspicion, and must be considered as proof that the person dressing the animal had guilty knowledge of the existence of disease (Tuberculosis).

The Local Government Board has ordered that Stripping, in the case of foreign dead meat, shall be sufficient reason for condemnation.

- (iv.) White or yellowish masses in the liver, which on cutting present the appearances described above in (i.).

**PORK.**—The conditions are more stringent, and the Report of the Royal Commission advises that all pigs showing any evidence of Tuberculosis should be condemned.

It frequently occurs, however, that well-nourished pigs are tuberculous; therefore special attention should be paid to the kernels on the mudgeon and on the belly and weasand. These should be split with a knife to ascertain if they are hard or gritty.

The kernels on the windpipe and between the lungs should be carefully examined.

The lungs should be tested by pressure between the finger and thumb—hard, shotty lumps will indicate disease. All the kernels should be of natural size and colour, free from all gritty feeling or cloudy appearance.

It is strongly recommended that no pigs, the lungs of which have grown to the side, and no meat of a doubtful character should be sent to market.

## TUBERCULOSIS.—SYMPTOMS IN THE LIVING ANIMALS.

In the early stages of this disease the majority of animals may appear to be in perfect health, there being no symptoms which would lead a veterinary surgeon, farmer or butcher to say definitely that the animal was suffering from Tuberculosis, although those in constant attendance on the animal would notice that at times they appear to be out of sorts and have a disinclination for their food, and occasionally after feeding, especially if the lungs are the seat of the disorder, the animal has a sharp, irritable cough, but as the disease advances in many cases the symptoms becomes more pronounced and more obvious to those attending and feeding the animals; there is often enlargement of the glands of the throat, the nose becomes dry and the eyes have a glassy appearance and often appear to sink in the socket; the cough becomes more frequent, the coat dry and staring, and the hide tight; the animals also often suffer from intermittent diarrhoea. On tapping the chest of an animal in this condition with the fingers, there will often be found a dulness, or a sound of solidity in patches over the region of the lungs, and the animal gradually loses flesh.

When the udder is affected, small nodular swellings can be felt in one or more of the quarters; these gradually enlarge and run together until the whole quarter or quarters become a diseased mass; this differs from ordinary Mammatis or Garget, inasmuch as there is little or no pain on pressure and the swellings gradually increase.

Should the owner of cattle find an animal exhibiting any of the above symptoms, it is his duty, in the interests of the community at large, to seek the advice of his veterinary surgeon, who will be able to satisfy him as to the condition of the animal, either by the symptoms present or by the use of Tuberculin.

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Volume XXIV.—Part III.]

DEC 4 1903

[October, 1903.]



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Commendation must also be given to Dr. Savage for his concise summary of bacteriological methods.

The book, illustrated by 134 illustrations and well printed, may be strongly recommended.

A. W. B.

BACTERIA IN MILK AND ITS PRODUCTS.†

Dr. Conn has established a reputation both in America and Europe among the now numerous workers in the development of scientific dairy farming, and the present work, though intended primarily for students in dairying and for others connected with the handling of milk, butter, and cheese, has a much wider interest. Attention is first drawn to the bacteria which produce souring, and to those

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\* Public Health and Laboratory Work. Third Edition. By H. R. Kenwood, M.B., D.P.H., F.C.S., and W. G. Savage, M.D., B.Sc., D.P.H. 606 pp., 8vo. London, 1903. H. K. Lewis. Price 10s. 6d.

† Bacteria in Milk and its Products. By H. W. Conn, Ph.D., Middletown University, Connecticut. 306 pp., 8vo., 43 figures. Price 6s. nett. Rebman, Ltd., 1903.

which cause changes injurious to the quality of the products. The relation of milk to health is then considered in the light not only of the epidemics that have been traced to polluted or diseased milk, but also in reference to the influence of the quality on nutrition, especially of children. The bacteriology of dairy processes is then discussed, and here, as the author in several places observes, there are many points that are not yet fully cleared up, particularly in connection with the use of "starters," and in the ripening of cheese. A good deal of the difference between Continental and American practice is due to a difference in public taste. Thus the author remarks (p. 192) that "people accustomed to the mild-flavoured European butter tell us that the American butter frequently tastes decayed"; and again (p. 210), "For the American market the use of starters in unpasteurized cream has proved fully as satisfactory as their use in unpasteurized cream, but for the European market pasteurization appears to be necessary to produce the desired product." The illustrations cannot be called satisfactory, *e.g.*, the Petri dish (p. 259) and some of the micro-organisms; the cheeses, apart from their labels, would not be recognized as cheeses at all. The fact, mentioned in the preface, that the greater part of the work has appeared in various scientific papers may account for repetitions and for the diffuseness of style. It is, however, an able digest of present knowledge, with the addition of some of the author's unpublished investigations.

S. R.

### THE MICROSCOPICAL EXAMINATION OF FOODS AND DRUGS.\*

This book will be found invaluable to the public analyst and others engaged in the microscopic examination of vegetable substances in daily use. There are few articles of vegetable origin which cannot be readily identified by a careful microscopic study in a minimum of time. For rapid examinations, therefore, such a book as the present is of supreme value, as alone by good diagrams and illustrations can the student learn to recognise the characteristics of the several plant tissues which may be met with in after practice. The study of the starches is perhaps one which in the past has been regarded of most value in microscopic work, but the hairs and textile fibres, leaves, woods and barks all have structures which, when carefully studied, throw light on the nature of the plant from which the preparation is derived, and enables the operator to testify as to the genuineness or otherwise of the drug or food under examination. Mr. Greenish has by long experience been enabled to group the common adulterants of the majority of vegetable drugs, and shows, in the volume before us, the ease by which the microscope enables the identification to be completed.

S. R.

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\* The Microscopical Examination of Foods and Drugs. By Henry George Greenish, F.I.C., F.L.S. 321 pp., 8vo. J. & A. Churchill. London, 1903. Price 10s. 6d.

## ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

*Abstracts of Titles classified in this List under the following headings:—*

Science in Relation to Hygiene and Preventive Medicine.  
 Hygiene of Special Classes, Trades, and Professions; and  
 Municipal Administration.  
 Building Materials, Construction, and Machinery.  
 Water Supply, Sewerage, and Refuse Disposal.  
 Heating, Lighting, and Ventilating.  
 Personal and Domestic Hygiene.

*The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.*

## Science in relation to Hygiene and Preventive Medicine.

BEATON, R. M., M.B., and AINLEY WALKER, E. W., M.D.

The Etiology of Acute Rheumatism and allied conditions.  
*British Medical Journal*, Jan. 31st, 1903, p. 237.

A careful enquiry into the subject is described, and the conclusion arrived at is that "the bacterial specificity of acute rheumatism has been satisfactorily established."

BEEVOR, SIR HUGH R., Bt., M.D. The Problem of Infection and Immunity in Tuberculosis and the issues involved.  
*Lancet*, Jan. 10th, 1903, p. 83.

The paper cannot very well be summarised, but it concludes with a caution against an alarmist view regarding the degree of infectivity of phthisis.

COOPER, R. M. LE HUNTE, M.D. Report on the Influence of Sanitation in Checking Enteric Fever and Dysentery at Harrismith, Orange River Colony, South Africa, in 1901 and and 1902. *Lancet*, March 7th, 1903, p. 649.

DOMBROWSKY, Dr. On the Biology of the Bacillus of Dysentery. *Archiv für Hygiene*, Vol. XLVII., Heft 3, 1903, p. 243.

The author discusses the identity of the Bacillus of Shiga and the Bacillus Kruse, and its behaviour as a culture on various media, liquid and solid.

FRASER, CHAS., M.B. Some Facts bearing on the Vaccination Controversy, drawn from the recent epidemic of small-pox in South-West Essex. *Lancet*, Dec. 20th, 1902, p. 1689.

It is claimed that the paper is a "small contribution to the growing mass of evidence in favour of the practice of vaccination."

FIRTH, LIEUT.-COL. R. H., R.A.M.C., and HORROCKS, MAJOR W. H., R.A.M.C. An Inquiry into the Influence of Soil, Fabrics, and Flies in the Dissemination of Enteric Infection. *British Medical Journal*, Sept. 27th, 1902, p. 936.

Details are given of experiments upon which preventive measures are suggested.

GUSTAV, Dr. KABREHL. Determination of the Results of Filtration of Ground-water. *Archiv für Hygiene*, Vol. XLVII., Heft 3, 1903, p. 195.

Necessity of both vertical and horizontal filtration of waters of the several strata of a "formation"; algebraic formula suggested for calculation of the function of the several values obtained.

HÜTTNER, Dr. Ueber die Hygienische Bedeutung der Fleisch-conservierung. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 3, p. 501.

The paper deals with the sanitary importance of preserving meat.

KOCH, ROBERT, M.D. An Address on the Transference of Bovine Tuberculosis to Man. *British Medical Journal*, Dec. 20th, 1903, p. 1885.

After a detailed discussion of evidence said to support the other view, the conclusion arrived at is that the possibility that the disease can be conveyed from the cow to man is so slight that it may be disregarded.

KOLLE, Prof. Dr. W., and GOTSCHLICH, Dr. E. Untersuchungen über die bakteriologische Choleradiagnostik und Specificität des Koch'schen Choleravibriu. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLIV., Heft 1, p. 1.

This is a very painstaking investigation on 128 pages (the Authors were assisted by three other observers) into the bacteriological Cholera diagnosis and the specific character of the Choleravibriu of Koch.

LISTER, T. D., M.D. On the Utilisation of Infants' Milk Depôts. *British Medical Journal*, August 29th, 1903, p. 469.

The establishment of Milk Depôts is advocated, and it is suggested that success may be attained by the Medical Staff of different hospitals undertaking to support them.

LOCHTE, Dr. Die amtsärztliche Beurtheilung der Fleischvergiftung (Botulismus). *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 2, p. 429.

The Author discusses from the standpoint of a public official various forms of meat poisonings.

MACALISTER, J., M.D., and BRADSHAW, T. R., M.D. The Use of Salicylic Acid as a Preservative in Food. *Lancet*, March 14th, 1903, p. 717.

Various opinions are discussed, and the conclusion arrived at is that the use of a moderate amount of Salicylic Acid as a preservative of food is not injurious.

NASH, W. GIFFORD, F.R.C.S.Eng. Note on an Outbreak of Septic Sore-throat caused by milk. *Lancet*, Oct. 18th, 1902, p. 1050.

The facts concerning forty-two cases of Septic Sore-throat which occurred in twenty-two families are set forth indicating the cause as being a particular milk supply.

NASH, J. T. C., M.D. River and Seashore Pollution as it affects shell-fish. *British Medical Journal*, Aug. 8th, 1903, p. 297.

Examples are given of the danger of consuming shell-fish from polluted sources, and it is pointed out that the usual methods of sewage treatment while purifying the sewage from a chemical point of view do not remove the danger,

NEWSHOLME, ARTHUR, M.D. The Spread of Enteric Fever and other forms of Illness by Sewage-polluted Shell-fish. *British Medical Journal*, Aug. 8th, 1903, p. 295.

Outbreaks of Enteric Fever at Brighton and other places are mentioned as examples of shell-fish from sewage-polluted sources being the cause, and legislation on certain lines is advocated.

OTTO, Dr. HELLER. Result of the addition of Soap to a Disinfectant Material in Methods of Disinfection. *Archiv für Hygiene*, Vol. XLVII., Heft 3, 1903, p. 213.

Description, with Tables, of the rise in disinfection value by addition to the disinfectant of potash soap.

PERNET, GEO., M.R.C.S. Vaccination Rashes and Complications. *Lancet*, Jan. 10th, 1903, p. 87.



RAW, NATHAN, M.D. Human and Bovine Tuberculosis. *British Medical Journal*, Jan. 31st, 1903, p. 247.

Upon clinical observation chiefly, the writer has come to the conclusion that by milk a glandular disease of the abdomen can be produced, but that the organism responsible is not the same as the tubercle bacillus of phthisis pulmonalis.

ROW, R., M.D. Further Observations on the Reaction of Bacillus Pestis in Plague. *British Medical Journal*, May 9th, 1903, p. 1076

RUDOLF, R. DAWSON, M.D. The Use of Antitoxin in the Treatment and Prevention of Diphtheria. *British Medical Journal*, May 9th, 1903, p. 1078.

SANDERSON, SIR J. BURDON, Bart., M.D., F.R.S. The Pathology of Infection. *Lancet*, Nov. 1st, 1902, p. 1169.

Presidential Address delivered before the Pathological Society of London.

SCHMIDT, Dr. P. Experimental Observations on Sunstroke, and preventive measures against the effect of radiant heat rays. *Archiv für Hygiene*, Vol. XLVII, Heft 3, 1903, p. 262.

The Author discusses the conductivity of the skull and hair as well as of the membrane of the brain and brain substance to both thermal and actinic rays; the blood of anæmic persons much the more diathermous; the heat rays rather than the actinic rays cause sunstroke; influence of white and dark skin; long experience and observation under parallel conditions needful to determine relative value of dress material.

SCHWARTZ, Dr. O. Die Folgen der Beschäftigung verheiratheter Frauen in Fabriken vom Standpunkte der öffentlichen Gesundheitspflege und Social Reform. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 2, p. 424.

The Author reviews from the standpoint of public health and social reform the consequences of the occupation of married women in factories.

SHAW, E. A., M.B. On Exaltation of Bacterial Virulence by Passage in Vitro. *British Medical Journal*, May 9th, 1903, p. 1074.

SPRINGFIELD, Dr. Die Keimdichte der Förderungsanlagen centraler Wasseranlagen im Regierungsbezirk Arnberg. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 3, p. 568.

The Author discusses the micro-organic contents of public water supplies in the district of Arnberg.

STRUPPLER, Dr. TH. Bier und seine Verfälschungen. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 2, p. 532.

The paper deals with beer and its adulteration.

TERNI, Prof. Dr. C. Studien über die Pest. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLIV., Heft 1, p. 129.

The paper deals with the bubonic plague.

THRESH, J. C., M.D., and WOOD, F. L., M.B. Report on an Outbreak of Typhoid Fever and other Illness due to Oysters. *Lancet*, Dec. 6th, 1902, p. 1567.

The history of a number of cases is given, and also an account of certain investigations regarding the presence of pathogenic organisms in oysters and cockles from different sources.

TOMBLESON, JAMES B., M.B. A Note on the Etiology of Yellow Fever. *Lancet*, Aug. 29th, 1903, p. 594.

The paper describes the finding of a special bacillus, which the writer is of opinion is the cause of the disease.

WALKER, E. W. AINLEY, M.D. On Exaltation of Bacterial Virulence by Passage Outside the Animal Body. *British Medical Journal*, Oct. 18th, 1902, p. 1199.

The results of experiment upon this subject are given.

WELCH, W. H., M.D. The Huxley Lecture on Recent Studies of Immunity, with special reference to their Bearing on Pathology. *British Medical Journal*, Oct. 11th, 1902, p. 1105.

The scope of the paper is sufficiently indicated by the title.

WUERTZ, Dr. AD. Die Säuglingssterblichkeit und die Massregeln öffentlich-hygienischer Art, die zum Zwecke ihrer Herabsetzung genommen werden können. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 2, p. 390.

The Author deals with the mortality amongst sucklings, and reviews the public sanitary measures that may be adopted with a view to reducing the same.

### **Hygiene of Special Classes, Trades, and Professions; and Municipal Administration.**

HUEBBEN, J. Zur Frage der Stuttgarter Bauordnung. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 2, p. 344.

The paper deals with the Stuttgart building bye-laws in a critical manner.

KUHN, Dr. A. Die Hygiene des Unterrichts in Frankreich und in Elsass Lothringen. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 2, p. 354.

The paper deals critically, from a sanitary point of view, with the education in France and in Alsace-Lorraine.

NEUBURGER, Dr. Aerztliche Reiseerinnerungen an Paris und London. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 2, p. 321.

The paper contains medical reminiscences of Paris and London.

### **Water Supply, Sewerage, and Refuse Disposal.**

"ENGINEERING RECORD" EDITOR. Sewage Pollution of Water Supplies. Aug. 1st, 1903, p. 117.

Anomalies in the laws of the various States of America: Hints for the guidance of engineers in discharging sewage in rivers or taking water supply from them.

—— Concrete Reservoir Linings. Aug. 1st, 1903, p. 118.

Remarks on the Croton Aqueduct report as to the water-tightness of concrete.

—— The New Waterworks for Jersey City. Aug. 8th, 1903, p. 152.

Description of works comprising a reservoir of seven and quarter million gallons capacity, earthen dam, masonry dam, and conduit twenty-three miles long. (Illustrated).

IRONS, ERNEST E. Ferrous Sulphate as a Coagulant in the Mechanical Filtration of Water. *Engineering Record*, Aug. 8th, 1903, p. 164.

Description of an installation, and a series of experiments, with their results.

SCHMIDT, Dr. J. Zur Frage der kommunalen Wasserversorgung. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 3, p. 560.

The author discusses the question of public water supplies, and their influence upon the public health.

STAKEMANN, Dr. H. Ueber Müllbeseitigung in hygienischer Hinsicht. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 3, p. 543.

The author discusses the disposal of house refuse from a sanitary point of view.

HILL, N. S., Jr. Further result of the Water Waste Investigations in New York City. *Engineering Record*, Sep. 19th, 1903, p. 340.

Result of investigations with the "Cole-Flad" Pitometer, discovering wastes amounting to nearly 50 million gallons per day.

### Personal and Domestic Hygiene.

HIRSCHFELD, Dr. F. Die Ernährung des Soldaten vom physiologischen und volkswirtschaftlichen Standpunkt. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 3, p. 597.

The paper deals with the feeding of soldiers from a physiological and economic point of view.

PFEIFFER, Dr. E. Die allgemeine Ausstellung für hygienische Milchversorgung in Hamburg vom 2 bis 12 Mai, 1903. *Deutsch Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 3, p. 585.

The author describes the general Exhibition at Hamburg in May, 1903, for the sanitary supply of milk.

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## MEETINGS HELD JULY TO SEPTEMBER, 1903.

### PROVINCIAL SESSIONAL MEETING.

A Sessional Meeting was held in Birmingham on Sept. 26th, Dr. Alfred Hill, F.R.S.E., in the chair, when a discussion took place on "Some practical considerations in connection with modern methods of treating sewage."

The discussion was opened by Prof. A. Bostock Hill, M.Sc., M.D., D.P.H., and J. E. Willcox, A.M.Inst.C.E. In connection with the meeting visits were arranged to the Birmingham Crematorium by permission of the Directors, and to the works of the Tame and Rea District Drainage Board at Tyburn by the kind permission of the Engineer, J. D. Watson, M.Inst.C.E. 150 Members and visitors attended the meeting.

### EXAMINATIONS.

From July to September the following Examinations were held:—

#### PRACTICAL SANITARY SCIENCE.

July 17th and 18th, 1903, Cardiff.	4 Candidates,	2 Certificates.
July 24th and 25th, 1903, Liverpool.	4 Candidates,	3 Certificates.

#### INSPECTORS OF NUISANCES.

July 17th and 18th, 1903, Cardiff.	77 Candidates,	35 Certificates.
July 24th and 25th, 1903, Liverpool.	151 Candidates,	57 Certificates.

### CANDIDATES WHO HAVE RECEIVED CERTIFICATES, JULY—SEPTEMBER, 1903.

#### *Practical Sanitary Science.*

1903, July 25.	DAVISON, JOHN WILLIAM.
1903, July 25.	HATTON, JOHN.
1903, July 18.	MORRIS, STEPHEN WILLIAM SAVIN.
1903, July 18.	POWELL, THOMAS.
1903, July 25.	QUIRK, JOHN JOSEPH.

*Inspector of Nuisances.*

1903, July 18. ALLEN, JAMES GEORGE.  
 1903, July 25. ALMOND, JOHN, JUN.  
 1903, July 18. BAKER, FREDERICK THOMAS.  
 1903, July 18. BARGATE, JOHN EDWARD.  
 1903, July 25. BLAIR, WILLIAM CUMMING.  
 1903, July 25. BLOOR, WILLIAM HERBERT.  
 1903, July 18. BOLT, JOHN ELLIS.  
 1903, July 25. BRISCOE, WALTER.  
 1903, July 25. CADMAN, WILLIAM HENRY.  
 1903, July 25. CARTER, HARRY.  
 1903, July 25. CHADWICK, LAWRENCE.  
 1903, July 18. CHANT, FRANCIS THOMAS SIDNEY.  
 1903, July 25. L CHORLTON, MARY.  
 1903, July 25. CLARK, HERBERT GEORGE.  
 1903, July 25. CONNOR, LEVI.  
 1903, July 25. CUNLIFFE, ISAAC.  
 1903, July 18. DAVIES, ELIAS.  
 1903, July 25. DILLON, CHARLES HOOSON.  
 1903, July 25. DOOLEY, ERNEST.  
 1903, July 25. ELLIS, EDWARD.  
 1903, July 25. ELLISON THOMAS.  
 1903, July 25. ELLWOOD, JOHN FRANCIS ALBERT.  
 1903, July 18. EVANS, JOHN WYNNE.  
 1903, July 25. EVANS, PIERCE.  
 1903, July 25. FEARNs, FREDERICK JAMES.  
 1903, July 25. GORDON, ALFRED.  
 1903, July 25. GRICE, WILLIAM HENRY.  
 1903, July 18. GRIFFITHS, WILLIAM.  
 1903, July 25. HANSON, HENRY STEELE.  
 1903, July 18. HARDING, JOHN HOWARD.  
 1903, July 18. HARTLEY-ALVIS, JOHN.  
 1903, July 25. HATTERSLEY, CHARLES.  
 1903, July 25. L HAWORTH, MARY ELIZABETH.  
 1903, July 25. HILEY, FRED.  
 1903, July 18. HILL, JOHN.  
 1903, July 18. HOLDFORTH, HAROLD.  
 1903, July 25. HOLLAND, WILLIAM.  
 1903, July 25. HOLMES, THOMAS.  
 1903, July 18. HOWELLS, LLEWELLYN.  
 1903, July 18. HUIsH, FREDERICK EDWARD.  
 1903, July 25. L HUNTER, NELLIE HAMILTON.  
 1903, July 25. ILLINGWORTH, LEONARD.  
 1903, July 18. JAMES, WILLIAM DAVID.  
 1903, July 18. JEFFERY, WILLIAM CHARLES.  
 1903, July 18. JENKINS, REES EDWARD.  
 1903, July 18. JENKINS, WILLIAM JAMES.  
 1903, July 25. L JONES, JENNY.  
 1903, July 25. JONES, ROBERT OWEN.

1903, July 25. KAY, GEORGE HERBERT.  
 1903, July 25. *L* KIRK, EDITH.  
 1903, July 18. LAUGHTON, TOM BOWEN.  
 1903, July 18. MATSON, WILLIAM SMITH.  
 1903, July 25. MERCER, JOSEPH.  
 1903, July 18. MILLER, SYDNEY JAMES.  
 1903, July 25. MILLER, WILLIAM ERNEST.  
 1903, July 18. MORGAN, EVAN JOHN.  
 1903, July 25. MOSELEY, SAMUEL.  
 1903, July 25. NEWEY THOMAS CHARLES.  
 1903, July 18. *L* NEWMAN KATE.  
 1903, July 25. NICHOLSON THOMAS.  
 1903, July 25. NORMINGTON JAMES.  
 1903, July 25. OLIVER, JOHN E.  
 1903, July 25. *L* ORANGE, ENID.  
 1903, July 18. OWEN DAVID JOHN.  
 1903, July 25. PARKINSON, EDWARD.  
 1903, July 25. POPE, SAMUEL.  
 1903, July 18. REES, WALTER.  
 1903, July 18. RICHARDS, EDWARD JOHN.  
 1903, July 18. RICHARDS, GEORGE ARTHUR HOWELL.  
 1903, July 18. RICKETTS, FRANK.  
 1902, July 18. SEYMOUR, HAROLD AUSTYN GRIFFITH.  
 1903, July 25. SHAW, JOHN.  
 1903, July 25. *L* SIMONS, PHOEBE.  
 1903, July 18. SINGER, ALFRED JOHN.  
 1903, July 25. SMITH, SIDNEY MAJOR.  
 1903, July 25. *L* STOTT, ADA.  
 1903, July 25. STRICKLAND, WILLIAM.  
 1903, July 25. *L* STROVER, KATHARINE MAUDE.  
 1903, July 25. TAYLOR, JOHN (of Warrington).  
 1903, July 25. TAYLOR, WILLIAM ALBERT.  
 1903, July 25. TEARE, JOSEPH ERNEST.  
 1903, July 18. THOMAS, EDGAR MASON.  
 1903, July 25. TROWARD, RUPERT PERCY LECHMERE.  
 1903, July 18. UPHAM, EDWIN JOHN HENRY.  
 1903, July 25. VERNON, GEORGE.  
 1903, July 18. WALTERS, THOMAS OAKLEY.  
 1903, July 25. WATSON, ERNEST.  
 1903, July 25. WHITEHEAD, JAMES FREDERICK.  
 1903, July 25. WIDDOWSON, LEONARD BARTON.  
 1903, July 18. *L* WILLEY WINEFRIDE KATE.  
 1903, July 18. WILLIAMS, JOHN THOMAS.  
 1903, July 25. *L* WILLIAMSON, EDITH SALOME RACHEL.

### *Examination Questions.*

*Practical Sanitary Science.*—Cardiff, July 17th and 18th, 1903.

1. What is meant by "diffusion of gases"? State the relation between the rate of diffusion and the density of a gas.

2. What is meant by the term "relative humidity"? How is the amount ascertained, and what would be a healthy and comfortable amount of relative humidity in the atmosphere of a sitting-room?

3. Draw a cross section of the walls, foundations and floors of a house to be built on a damp subsoil, and state what means you would adopt to render it dry and healthy.

4. Give an outline specification for a water-main, the method by which its joints are to be made and the nature and method of tests to be applied.

5. It is required to heat a two-storied building by means of a high pressure water apparatus. Make a sketch to show how this should be done and mention the chief points to be attended to?

6. It is necessary to carry a drain under a dwelling house: describe, and illustrate by a sketch, how the work should be done.

7. What arguments may be adduced for and against the use of slop-water closets?

8. Sketch and describe the working of any good form of refuse destructor, with particulars of temperatures, and the conditions that are essential to produce perfect cremation, and to prevent dust escaping with the waste gases.

*The Candidates were examined vivâ voce on the 18th.*

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*Practical Sanitary Science.*—Liverpool, July 24th and 25th, 1903.

1. What is the weight of a cubic foot of (a) air at atmospheric pressure, (b) carbonic acid gas at atmospheric pressure? Why does not a heavy gas remain at ground level? What are the causes of winds?

2. Explain how the composition of air is affected by respiration, and why such changes are injurious to health.

3. What is meant by "one inch of rainfall"? Indicate how you would proceed to graduate the measuring cylinder of a rain-gauge.

4. What quantity of water per head of population is required in a non-manufacturing town, and how is it divided among the various uses?

5. What are the constituent parts of Portland cement? What defects arise from the excess of one material over another? How is it tested, and what should be its tensile strength?

6. Describe, and illustrate by a sketch, how a housemaid's slop sink on the first floor of a house should be fixed.

7. Describe, step by step, how you would proceed to examine and test the drainage arrangements of a house having the usual sanitary fittings, in a town in which the water-carriage system is in operation.

8. Describe the arrangement of a system for the bacterial treatment of sewage, and state the conditions under which the micro-organisms discharge their functions.

*The Candidates were examined vivâ voce on the 25th.*

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*Inspectors of Nuisances.—Cardiff, July 17th and 18th, 1903.*

1. What powers has a local authority and its officers for dealing with a tent, van, shed, or similar structure, used for human habitation, which is in such a state as to be a nuisance, or injurious to health, or which is so overcrowded as to be injurious to the health of its inmates?

2. Large numbers of carcases of calves are imported into this country from abroad at a certain period of the year. Under what conditions would you consider such carcases unfit for human consumption?

3. What steps would you take to prevent the spread of infection from a case of typhoid fever in a small isolated village?

4. State how water may be polluted after it enters a building from the street main, and how such pollution can be prevented?

5. What are the cubic contents of a rectangular room which has a ceiling 12 feet above the floor, of which the long sides measure 30 feet, the short sides 20 feet, and which has in one of the short sides a semi-circular bay with a radius of 6 feet, going up to the full height of the room?

7. Given three drains of 3-inch, 4-inch, and 5-inch diameter, converging to a common point, what must be the diameter of a fourth pipe to carry off the delivery of these, all gradients being equal?

7. What form of Register would you employ for recording the notifications of infectious disease, and the action taken in regard to each case?

8. Sketch to a large scale—

Bath trap and waste,

Slop sink with trap,

Section of a 50-gallon automatic flushing tank,

and mark the dimensions on each.

*The Candidates were examined vivâ voce on the 18th.*

*Inspectors of Nuisances.—Liverpool, July 24th and 25th, 1903.*

1. What are the requirements of the model by-laws of the Local Government Board as to the yards and curtilages of new dwelling-houses?

2. What are the sanitary objections to back-to-back houses, and what powers has a Sanitary Authority to deal with them?

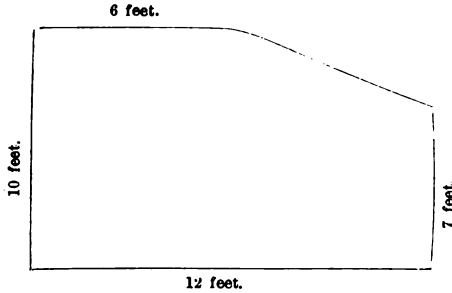
3. Mention the diseases which render the carcase of a pig unfit for food. What appearances in the carcase would enable you to decide that a pig had suffered from (a) Swine Fever, (b) Measles?

4. What are the main provisions of the by-laws relating to tripe-boiling?

5. What are the physical characteristics of good drinking water? What are the objections to shallow wells?

6. Give a list of the materials used for cisterns for the storage of water in houses, and the advantages of each and the defects each is liable to.

7. The floor of a room is 14 feet by 12 feet, and the vertical section as shown in sketch. What are the contents in cubic feet? How many persons should be allowed to work in such a room in the day time, or how many sleep in it at night?



8. Sketch half full-size the connection between the outgo of a w.c. pedestal and a lead soil-pipe; also the connection between a lead soil-pipe and stoneware drain.

*The Candidates were examined vivâ voce on the 25th.*

## FORTHCOMING MEETINGS.

### LECTURES FOR SANITARY OFFICERS.

The Thirty-Sixth Course of Lectures and Demonstrations to Sanitary Officers commenced on September 14th and continues to November 25.

The dates of the Meetings are given in the Calendar.

Thirty-one students have taken tickets for the Course.

### PRACTICAL TRAINING FOR MEAT INSPECTORS.

The Fourth Course consisting of systematic practical training in the inspection of meat, etc., at a cattle market commenced on October 2nd and continues until December 5th.

Twelve students have taken tickets for the Course.

A Course of Lectures has been arranged in the West Riding of Yorkshire under the auspices of a Joint Committee formed by The Sanitary Institute, the Technical Instruction Committee of the West Riding County Council, the County Boroughs of Leeds, Bradford, Huddersfield, and Halifax, and Yorkshire College.

The Course will consist of Eight Lectures and Four Demonstrations, commencing November 7th and finishing about March, 1904.

The Lectures will be given about once a week and will afford a preparation for candidates entering for the Meat Inspectors' Examination held by the Institute.

#### SESSIONAL MEETINGS.

A Sessional Meeting will be held in Leicester on December 5th, when a discussion will be opened on "Collection, Disposal, and Utilisation of Town Refuse in Leicester," and a Sessional Meeting will be held in London on December 9th, when the subject of "Flooding of Basements in London by Sewage" will be brought forward.

#### CONGRESS, 1904.

The Council have accepted an invitation from the Corporation of Glasgow to hold the next Congress and Exhibition of the Institute in that city in 1904. It will be twenty-one years since the previous Congress held by the Institute in that city in 1883.

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#### CALENDAR, OCTOBER TO DECEMBER, 1903.

*As far as at present arranged.*

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m.

Exhibition Committee . . . . .	} Monday in the week preceding the Council, at 4.30 p.m. & 5.30 p.m.
Congress and Editing Committee . . . . .	
Museum and Library Committee . . . . .	} Tuesday in the week preceding the Council, at 4 p.m. and 5 p.m.
Examination Committee . . . . .	
Special Purposes Committee . . . . .	} Wednesday in the week preceding the Council, at 4 p.m. and 5 p.m.
Finance Committee . . . . .	
Parliamentary Committee . . . . .	As occasion requires.

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 1 p.m. on Saturday.

*Council and Committee Meetings are suspended during August and Sept., and the Museum and Library are closed on public holidays.*

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#### OCTOBER.

- 2 F. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—General, B: Indoor, by J. Priestley, B.A. M.D., M.R.C.S., D.P.H.
- 2 F. Examination for Inspectors of Nuisances, South Africa.
- 2 F. Meat Inspectors' Course commences, 7.30 p.m.
- 3 S. Inspection and Demonstration at 3 p.m. at Aylesbury Dairy Co.'s premises.

- 6 T. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—C: Offensive Trade Nuisances, &c., by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.
- 7 W. Inspection and Demonstration at L.C.C. Common Lodging House, Parker Street, Drury Lane, at 3 p.m.
- 8 Th. Lecture to Sanitary Officers at 7 p.m. Infectious Diseases, by A. Wellesley Harris, M.R.C.S., D.P.H.
- 9 F. Lecture to Sanitary Officers at 7 p.m. Methods of Disinfection, by Henry R. Kenwood, M.B., D.P.H., F.C.S.
- 10 S. Lecture to School Teachers at Bedford College at 10 a.m., by Miss H. Robertson, B.A., on Hygiene in Education.
- 10 S. Inspection and Demonstration at Ealing Sewage & Destructor Works, at 2.15 p.m., conducted by Charles Jones, M.INST.C.E., Borough Engineer and Surveyor.
- 10 S. Demonstration—Meat Inspectors' Course 2 p.m.
- 12 M. Lecture to Sanitary Officers at 7 p.m. Elementary Statistics, by Henry R. Kenwood, M.B., D.P.H., F.C.S.
- 13 T. Lecture to Sanitary Officers at 7 p.m. Water: Composition, Pollution, and Purification, by A. Wellesley Harris, M.R.C.S., D.P.H.
- 14 W. Inspection and Demonstration in the District of Islington and at the Borough Disinfecting Station at 2 p.m. (number limited), conducted by James R. Leggatt, Superintendent, Public Health Department, Borough of Islington.
- 14 W. Lecture to Sanitary Officers at 7 p.m. Details of Plumbers' Work, by J. Wright Clarke.
- 16 F. Demonstration—Meat Inspectors' Course 7.30 p.m.
- 16 F. } Examination for Inspectors of Meat and Other Foods, Bristol.
- 17 S. }
- 17 S. Inspection and Demonstration at Battersea Municipal Milk Depot and Disinfecting Station at 3 p.m., conducted by G. F. McCleary, M.D., D.P.H.
- 17 S. Lecture to School Teachers at Bedford College, at 10 a.m., by Miss Robertson, B.A., on Hygiene in Education.
- 19 M. Lecture to Sanitary Officers at 7 p.m. Calculations, Measurements, and Plans and Sections, by W. C. Tyndale, M.INST.C.E.
- 21 W. Inspection and Demonstration at a Bakehouse.
- 22 Th. Lecture to Sanitary Officers at 7 p.m. Building Materials, by Prof. R. Elsey Smith, A.B.I.B.A.
- 23 F. Lecture to Sanitary Officers at 7 p.m. Sanitary Building Construction and Planning; Soil and Local Physical Conditions, by Prof. R. Elsey Smith, A.B.I.B.A.
- 23 F. } Examinations in Practical Sanitary Science, Practical Hygiene for
- 24 S. } School Teachers, and for Inspectors of Nuisances, Derby.
- 24 S. Demonstration—Meat Inspectors' Course 2 p.m.
- 24 S. Inspection and Demonstration at Charing Cross Hospital New Buildings, at 3 p.m., conducted by Alfred Saxon Snell, F.R.I.B.A.
- 24 S. Lecture to School Teachers at Bedford College, at 10 a.m., by Miss Robertson, B.A., on Hygiene in Education.
- 24 S. Demonstration—Meat Inspectors' Course.
- 26 M. Lecture to Sanitary Officers at 7 p.m. Ventilation, Warming, and Lighting, by Prof. R. Elsey Smith, A.B.I.B.A.
- 28 W. Lecture to Sanitary Officers at 7 p.m. Sanitary Appliances, by W. H. Maxwell, A.M.I.C.E.
- 28 W. Inspection and Demonstration of canal boats at Paddington.
- 30 F. Lecture to Sanitary Officers at 7 p.m. House Drainage, by W. H. Maxwell, A.M.I.C.E.
- 30 F. Demonstration—Meat Inspectors' Course 7.30 p.m.
- 31 S. Lecture to School Teachers at Bedford College, at 10 a.m., by Miss Robertson, on Hygiene in Education.
- 31 S. Demonstration and Inspection of a house in Stoke Newington at 3 p.m., conducted by W. Matthews, Chief Sanitary Inspector.

## NOVEMBER.

- 2 M. Lecture to Sanitary Officers at 7 p.m. Water Supply, Sources of Supply and Distribution, by Jno. Ed. Worth, M.INST.C.E.
- 3 T. Demonstration of Book-keeping as carried out in a Sanitary Inspectors' Office, at the Public Health Office, Town Hall, Upper Street, Islington, N., at 7 p.m., by James R. Leggatt, Supt. Public Health Dept., Borough of Islington.
- 4 W. Inspection and Demonstration at a Bakehouse at 3 p.m.
- 4 W. Lecture to Sanitary Officers at 7 p.m. Sewerage, by Jno. Ed. Worth, M.INST.C.E.
- 6 F. Lecture to Sanitary Officers at 7 p.m. Sewage Disposal, by Jno. Ed. Worth, M.INST.C.E.
- 6 F. } Examination in Practical Sanitary Science and for Inspectors of
- 7 S. } Nuisances, Newcastle-upon-Tyne.
- 7 S. Inspection and Demonstration at Marylebone Workhouse, and Public Baths, at 3 p.m. Conducted by A. Saxon Snell, F.R.I.B.A.
- 7 S. Demonstration—Meat Inspectors' Course 2 p.m.
- 7 S. Lecture at the Philosophical Hall, Leeds, at 3 p.m., by J. McKinna, F.R.C.V.S., of Huddersfield. The Names and Situations of the Organs of the Body in Animals.
- 9 M. Lecture to Sanitary Officers at 7 p.m. Scavenging, Disposal of House Refuse, by Jno. Ed. Worth, M.INST.C.E.
- 11 W. Lecture to Sanitary Officers at 7 p.m. Signs of Health and Disease in Animals destined for Food, when alive and after slaughter. Tuberculin and other Tests, by W. Hunting, F.R.C.V.S.
- 11 W. Inspection and Demonstration at a Bakehouse at 3 p.m.
- 12 Th. Demonstration—Meat Inspectors' Course 7.30 p.m.
- 13 F. Lecture to Sanitary Officers at 7 p.m. The Names and Situations of the Organs of the Body in Animals, by James King, M.R.C.V.S.
- 14 S. Lecture at the Philosophical Hall, Leeds, at 3 p.m., by E. Petronell Manby, B.A., M.D., D.F.H., Medical Inspector of the Local Government Board. The appearance and character of fresh meat, organs, fat, blood, fish, poultry, milk, fruit, vegetables, and other food, and the conditions tendering them, or preparations of them, fit or unfit, for human consumption.
- 16 M. Lecture to Sanitary Officers at 7 p.m. Practical Methods of Stalling and Slaughtering Animals, by W. Hunting, F.R.C.V.S.
- 18 W. Inspection and Demonstration at Harrison and Barber's Knackers' Yard, Winthrop Street, Whitechapel, E., at 3 p.m., conducted by H. King Shaw.
- 19 Th. Lecture to Sanitary Officers at 7 p.m. Diseased Meat, with a Demonstration of Morbid Specimens collected from Meat Markets, by James King, M.R.C.V.S.
- 20 F. Lecture to Sanitary Officers at 7 p.m. The Appearance and Character of Fresh Meat, Organs, Fat, Blood, Fish, Poultry, Milk, Fruit, Vegetables, and other Food, and the conditions rendering them, or preparations of them, fit or unfit for human consumption. Preserving and Storing Meat and other Foods, by E. Petronell Manby, B.A., M.D.
- 20 F. } Examination in Practical Sanitary Science and for Inspectors of
- 21 S. } Nuisances, Manchester.
- 21 S. Demonstration—Meat Inspectors' Course 2 p.m.
- 21 S. Meat Inspection Demonstration at Leeds.
- 23 M. Lecture to Sanitary Officers at 7 p.m. Hygiene of Byres, Lairs, Cowsheds, and slaughter-houses, and all places where Animals destined for the supply or food are kept: and the Hygiene of Markets, Dairies, and other places where food is stored, prepared, or exposed for Sale and transported, by E. Petronell Manby, B.A., M.D.
- 25 W. Lecture to Sanitary Officers at 7 p.m. The Laws, By-Laws, and Regulations affecting the Inspection and Sale of Meat and other articles of food, including their preparation and adulteration, by E. Petronell Manby, B.A., M.D.

- 26 Th. Inspection and Demonstration at the Metropolitan Cattle Market, York Road, N., at 2 p.m., conducted by James King, M.B.C.V.S.  
 27 F. Demonstration—Meat Inspectors' Course 7.30 p.m.  
 28 S. Lecture at the Philosophical Hall, Leeds, at 3 p.m., by R. S. Marsden, M.B., D.Sc. D.P.H., on Diseased Meat.

## DECEMBER.

- 5 S. **Sessional Meeting at Leicester.** Discussion on the Collection, Disposal, and Utilization of Town Refuse, opened by Frank W. Allen, A.M.INST.C.E., Assistant Borough Surveyor, Leicester.  
 5 S. Demonstration—Meat Inspectors' Course 2 p.m.  
 5 S. Meat Inspection Demonstration at Bradford, conducted by W. Arnold Evans and the Superintendent of the Bradford Abattoirs, including a visit to the Cold Storage Establishment.  
 9 W. **Sessional Meeting,** 8 p.m., discussion on the "Flooding of Basements in London by Sewage."  
 11 F. Examination in Practical Sanitary Science and for Inspectors of  
 12 S. } Nuisances, London.  
 12 S. Lecture at the Philosophical Hall, Leeds, at 3 p.m., by James King, M.B.C.V.S., Veterinary Inspector, Metropolitan Cattle Market. The Signs of Health and Disease in Animals: (1) when alive, (2) after slaughter; tuberculin and other tests.  
 18 F. } Meat Inspectors' Examination, London.  
 19 S. }  
 25 F. { **Christmas Day.** } Museum Closed.  
 26 S. { **Bank Holiday.** }

## MEMBERS AND ASSOCIATES

ELECTED OCTOBER, 1903.

## MEMBERS.

\* Passed Practical Sanitary Science Examination

- 1710 1903. Oct. ARMSTRONG, William George, M.B., D.P.H., M.O.H.,  
*City Town Hall, Sydney, New South Wales.*  
 1711 1903. Oct. BLANCHARD, Robert, *Borough Engineer's Office,*  
*Leicester.*  
 1712 1903. Oct. CLARK, Francis William, M.D., D.P.H., M.O.H., *Hong*  
*Kong (35, Stanwick Mansions, West Kensington).*  
 1713 1903. Oct. BEATTY, James, M.A., M.D., M.B., D.P.H., M.O.H., *Public*  
*Health Office, 20, Guildhall Road, Northampton.*  
 1714 1903. Oct. \*DAVISON, John William, 336, *Stanhope Road, South*  
*Shields, Durham.*  
 1715 1903. Oct. DELÉPINE, Professor A. Sheridan, M.B., C.M., B.Sc.,  
 1, *Stanley Grove, Manchester.*

Reg. No.	Date of Election.	
1716	1903. Oct.	FARRAR, Walter, <i>Town Hall, Todmorden.</i>
1717	1903. Oct.	*CONOLLY, Arnold Adalbert William, <i>Harbour Works, Trial Bay, New South Wales.</i>
1718	1903. Oct.	GABBETT, Edward, ASSOC.M.INST.C.E., <i>Executive Engineer, Public Works Dept., Burma.</i>
1719	1903. Oct.	GAMMAGE, Edward John, <i>Borough Surveyor's Office, Town Hall, Dudley.</i>
1720	1903. Oct.	HAYES, J. Gordon, <i>Avenue Chambers, Belfast.</i>
1721	1903. Oct.	*HATTON, John, <i>The Quadrant, Buxton, Derby.</i>
1722	1903. Oct.	HEALEY, William Everard, <i>Sutton Coldfield, Birmingham.</i>
1723	1903. Oct.	HUTTON, Fred, <i>Council Offices, Ashton-on-Mersey.</i>
1724	1903. Oct.	JONES, Francis Blamey, M.D., C.M., D.P.H., 501, <i>Sherbrooke Street, Montreal, Canada.</i>
1725	1903. Oct.	LAIRD, Andrew J., M.D., M.O.H., <i>Crewe.</i>
1726	1903. Oct.	†LATHAM, Harry Gould, A.S.I., <i>Whatmer Hall, Sturry, Kent.</i>
1727	1903. Oct.	LLOYD, Thomas Henry, <i>Newark, Nottingham.</i>
1728	1903. Oct.	*MORRIS, Stephen William Savin, 127, <i>Crawford St., Baker Street, W.</i>
1729	1903. Oct.	*PEARSON, Jacob Walker, 346, <i>Plymouth Grove, Manchester.</i>
1730	1903. Oct.	RANSOM, Herbert Byron, ASSOC.M.INST.C.E., <i>Artillery Mansions, Victoria St., Westminster, S.W.</i>
1731	1903. Oct.	RITCHIE, Alexander, 4, <i>Upper Thames Street, E.C.</i>
1732	1903. Oct.	SAUNDERS, Edward Y., <i>Borough Engineer, Town Hall, Lowestoft.</i>
1733	1903. Oct.	SISSONS, Frank P., <i>Borough Surveyor's Office, Dudley.</i>
1734	1903. Oct.	SPRECKLEY, John Alfred, ASSOC.M.INST.C.E., 1, <i>Rosebery Villas, Hereford.</i>
1735	1903. Oct.	STRUTT, T. F., <i>Chief Sanitary Inspector, Town Hall, Westminster.</i>
1736	1903. Oct.	SWINBURNE, George Way, 156, <i>Fifth Avenue, New York, U.S.A.</i>
1737	1903. Oct.	THOMPSON, William Mapp, 37, <i>Dartmouth Street, Westminster.</i>
1738	1903. Oct.	VALINTINE, T. H. A., M.R.C.S., L.R.C.P., D.P.H., <i>Assistant Health Officer, New Zealand.</i>
1739	1903. Oct.	WICKS, John Thomas, <i>Bescot, Walsall.</i>
1740	1903. Oct.	†WILKINSON, Michael H., <i>Park View, Leyland, Lancs.</i>

## ASSOCIATES.

† Passed Examination for Inspectors of Nuisances.

2862	1903. Oct.	†BAKER, Frederick Thomas, <i>Leighton House, York Road, Exeter.</i>
2863	1903. Oct.	†BARGATE, John Edward, <i>The Park Hospital, Hither Green, Lewisham, Kent.</i>

Reg. No.	Date of Election.	
2964	1903. Oct.	†BARNES, Walter, <i>Randwick, Sydney, N.S.W.</i>
2965	1903. Oct.	†BIDWELL, George, 5, <i>Grace Street, Jeppestown, Johannesburg, S. Africa.</i>
2966	1903. Oct.	†BOLT, John Ellis, <i>Town Hall, Crediton, Devon.</i>
2967	1903. Oct.	†BUCHAN, Alexander William, <i>Kingsmuir, Forfar.</i>
2968	1903. Oct.	†BULL, Herbert, 106, <i>King Street, S. Woolwich, S.E.</i>
2969	1903. Oct.	†CAMPBELL, William Mattison, <i>c/o Verney &amp; Sons, Victoria St. Valley, Brisbane.</i>
2970	1903. Oct.	CAREY, Mary, 41, <i>Carlisle Terrace, Manningham, Bradford.</i>
2971	1903. Oct.	†CHADWICK, Lawrence, <i>The Cottage, Helmsshore, near Manchester.</i>
2972	1903. Oct.	†CLARK, H. G., <i>Holly House, Haigh, near Wigan.</i>
2973	1903. Oct.	†DENTON, John, 15, <i>Milner Terrace, Hunslet, Leeds.</i>
2974	1903. Oct.	†DILLON, Charles Hooson, 176, <i>Oakfield Road, Anfield, Liverpool.</i>
2975	1903. Oct.	†ELLIS, Edward, 33, <i>Hope Street, Lancaster.</i>
2976	1903. Oct.	†ELLWOOD, John Francis Albert, <i>Arrowfield, Conis- ton, R.S.O., Lancashire.</i>
2977	1903. Oct.	†FEARNS, Frederick James, 34, <i>Yarburgh Street, Alexandra Park, Manchester.</i>
2978	1903. Oct.	†GEORGE, Florence, 17, <i>Brunswick St., Swansea.</i>
2979	1903. Oct.	†GORDON, Alfred, 6, <i>Pexton Street, Collyhurst, Man- chester.</i>
2980	1903. Oct.	†GRADON, Henry Lawrence, <i>Lynton House, Durham.</i>
2981	1903. Oct.	†GRICE, William Henry, 10, <i>Norman Road, Runcorn.</i>
2982	1903. Oct.	†HARRIS, Thomas George, <i>South Brisbane Town Council, S. Brisbane, Queensland.</i>
2983	1903. Oct.	†HARRISON, Ada Alice, B. 37, <i>Dorset St., Sheffield.</i>
2984	1903. Oct.	†HARTLEY, Alvis John, <i>Park Farm, Downend, Bristol.</i>
2985	1903. Oct.	†HILL, John, 114, <i>Pilton St., Barnstaple, Devon.</i>
2986	1903. Oct.	†HOLLAND, William, 6, <i>Shakespeare Street, Ardwick, Manchester.</i>
2987	1903. Oct.	†HUISH, Frederick Edward, <i>Street, Somerset.</i>
2988	1903. Oct.	†ILLINGWORTH, Leonard, 324, <i>Oldham Road, Newton Heath, Manchester.</i>
2989	1903. Oct.	†JAMES, William David, <i>Pontardulais, Glam.</i>
2990	1903. Oct.	†KAY, George Herbert, <i>Openshaw House, Cadishead, Lancs.</i>
2991	1903. Oct.	†KENDALL, George, 61, <i>Whycliffe Road. Shipley, Yorks.</i>
2992	1903. Oct.	†LAKE, Sydney Lionel, 2, <i>Collett Road, Bermondsey, S.E.</i>
2993	1903. Oct.	†HOLMES, Frank, 27, <i>Brougham St., Skipton.</i>
2994	1903. Oct.	†SAVILLE, Thomas William, 43, <i>Devonshire Road, Walthamstow.</i>
2995	1903. Oct.	†SWAINSTON, William Robinson, 59, <i>Bayswater Place, Roundhay Road, Leeds.</i>
2996	1903. Oct.	†TBOWARD, Rupert Percy Lechmere, <i>The Oaks, Lan- caster Road, S. Norwood.</i>



Reg. No.	Date of Election.	
2997	1903. Oct.	‡LANGLEY, Herbert J., 117, <i>Meanley Road, Manor Park, E.</i>
2998	1903. Oct.	LOVE, Richard Edmund, <i>Chamji Buildings, Byculla, Bombay.</i>
2999	1903. Oct.	‡MATSON, William Smith, 5, <i>Bodney Road, Hackney, N.E.</i>
3000	1903. Oct.	‡MILLER, Sydney James, <i>The Poplars, Spörle, Swaffham, Norfolk.</i>
3001	1903. Oct.	‡MORGAN, Evan John, <i>Del-y-Bryn, Brynamman R.S.O., Carmars.</i>
3002	1903. Oct.	‡NEWBY, Thomas Charles, 643, <i>Liverpool Rd., Irlam, Lancs.</i>
3003	1903. Oct.	NEWTON, Ada Mary, 36, <i>Castlewood Road, Stamford Hill, N.</i>
3004	1903. Oct.	‡OGILVIE, Charles Theodore Pottinger, <i>Commercial Bank of Australia, Ltd., Brisbane, Queensland.</i>
3005	1903. Oct.	‡OLIVER, John E., 66, <i>Church Lane, Harpurhey, Manchester.</i>
3006	1903. Oct.	‡OXLEY, Harry Griffith, " <i>Wirva</i> ," <i>Armagh Street, Eagle Junction, Brisbane, Queensland.</i>
3007	1903. Oct.	‡PARKINSON, Edward, 15, <i>Beaumont Road, Daubhill, Bolton.</i>
3008	1903. Oct.	‡PERRY, William Albert, 13, <i>Love Walk, Denmark Hill, S.E.</i>
3009	1903. Oct.	‡RICHARDS, George Arthur Howell, 20, <i>Salisbury Road, Cathays, Cardiff.</i>
3010	1903. Oct.	‡RICKETTS, Frank, <i>Renira, 11, Furlong Rd., Gloucester.</i>
3011	1903. Oct.	‡ROBINSON, Ernest Sherwood, " <i>Fox &amp; Grapes</i> ," <i>Wimbledon Common, Surrey.</i>
3012	1903. Oct.	‡SCOTT, Lilian, <i>Bainton, Driffield, Yorks.</i>
3013	1903. Oct.	‡SIMONS, Phoebe, <i>St. Lucy's Home, Gloucester.</i>
3014	1903. Oct.	‡SMITH, Sidney Major, 83, <i>Bradford Street, Ancoats, Manchester.</i>
3015	1903. Oct.	‡SOWERBUTTS, Frederick, <i>Crombouke House, London Road, Northampton.</i>
3016	1903. Oct.	‡STRICKLAND, William, 51, <i>Dixon Street, Barrowford, Nelson, Lancs.</i>
3017	1903. Oct.	‡TAYLOR, William Albert, 47, <i>Bold St., Accrington.</i>
3018	1903. Oct.	‡VERNON, George, 109, <i>Duke St., Old Trafford, Manchester.</i>
3019	1903. Oct.	‡WALKER, Arthur, 18, <i>Mill Street, Birstall, near Leeds.</i>
3020	1903. Oct.	‡WHEELDON, James Henry, <i>Mappleton, Derby.</i>
3021	1903. Oct.	‡WIDDOWSON, Leonard Barton, <i>Mosborough, via Sheffield.</i>

## CONTRIBUTIONS AND ADDITIONS TO LIBRARY

DURING AUGUST AND SEPTEMBER, 1903.

\*\*\* For publications of Societies and Institutions, &c., see under  
"Academies."

## ACADEMIES (AMERICAN).

**British Columbia.** Medical Register of the College of Physicians and Surgeons. 43 pp., 8vo. B. Columbia, 1903. *The College.*

## ACADEMIES (BRITISH).

**Durham.** *University College of Medicine.* Calendar, 1903-1904. 163 pp., 8vo. Newcastle-on-Tyne, 1903. *The University.*

**Liverpool.** Handbook compiled for the Congress of the Royal Institute of Public Health, 1903. 330 pp., fcap. Liverpool, 1903.

**London.** *Guy's Hospital.* The Dean's Report of the Medical and Dental Schools of Guy's Hospital. 100 pp., 8vo. London, 1903.

———— *The Hospital.*  
*National Association for the Promotion of Technical and Secondary Education.* Fourteenth Report, 1901-3. 112 pp., 8vo. London, 1903.

Report of the Proceedings of the Conference on Higher Education. 46 pp., 8vo. London, 1903. *The Association.*

———— *Institution of Mechanical Engineers.* Proceedings and List of Members. 197 pp. (plates), 8vo. London, 1903. *The Institution.*

———— *Institution of Civil Engineers.* Minutes of Proceedings, with other selected and abstracted Papers. Vol. CLII., 1902-3. 446 pp. (plates), 8vo. London, 1903. *Institution of Civil Engineers.*

———— *The Institution of Mechanical Engineers.* Proceedings, March-May, 1903. 382 pp., 8vo. London, 1903.

*The Institution.*

**Baxendell, Joseph, F.R.Met.Soc.** The Meteorology of Southport. 12 pp., 8vo. Southport, 1903.

———— Note on the Duration of Rainfall. 8 pp., 8vo. London, 1903.

*The Author.*

**Bechmann, G.** Salubrité Urbaine: distributions d'Eau assainissement. 701 pp., 8vo. Paris, 1888. *Lady Galton.*

**Bengal.** Thirty-Fifth Annual Report of the Sanitary Commissioner. 28 pp. (Tables), fcp. Calcutta, 1903. *The San. Commissioner.*

**Bennett-Barlow, S., R.P.C.** Technical Plumbing. 187 pp., 8vo. Stockton-on-Tees. 1903. *The Author.*

- Bilbao.** Memoria Acerca del Estado Y Progreso de las Obras de Saneamiento de la 1.ª Villa de Bilbao, Jan.-Dec., 1902. 39 pp. (Tables), fcp. Bilbao, 1903. *T. A. Greenhill.*
- Board of Agriculture.** Report on the Agricultural Returns relating to Acreage and Produce of Crops and Number of Live Stock in Great Britain, 1902. 264 pp., 8vo. London, 1903. *The Board.*
- Boucher, Dr. Henry.** Étude sur les Entités morbides: Lois de morbidité. 212 pp., 8vo. Paris, 1895. *Lady Galton.*
- Bruxelles.** Rapports des Commissions médicales provinciales sur leurs travaux pendant l'année 1902. I. & II. fasc. 504 pp., 8vo. Bruxelles, 1903. *E. Dethy.*
- Budapest.** Budapest Szekesfovaros Halandosaga as, 1901-1903, érekben és annak okai irta Dr. Körösy József. 11-ik (Tablas), Resz. 1-20. Fuzet, 1901. 44 pp., sup. royal. Budapest, 1902. — Die Hauptstadt Budapest, I. M. Jahre, 1901. Resultate der Volkszählung und Volksbeschreibung. 62 pp., sup. royal. Berlin, 1903. *Dr. Joseph de Körösy.*
- Chapman, T. A., M.D.** A revision of the Statistics by the Committee on Tuberculosis. Medico-Psychological Association of Gt. Britain and Ireland. 7 pp., 8vo. London, 1903. *The Author.*
- Clouston, T. S., M.D.** An Address on the Scottish Medical Corporations and the Public Weal. 9 pp., 8vo. London, 1903. *The Author.*
- Dublin.** Report of the Director, Institutions of Science and Art, Dublin, for the year ending 31st March, 1903. 38 pp., 8vo. Dublin, 1903. *C. T. Plunkett.*
- Glasgow.** Museums and Galleries Report for 1902. 24 pp., 8vo. Glasgow, 1903. *James Paton, F.L.S.*
- Grehant, N.** Les dangers de l'Alcoolisme. Editions de la Revue Blene et de la Revue Saintifigue. 21 pp., 8vo. Paris. — Hygiene Expérimentale. L'Oxyde de Carbone. 207 pp., 8vo. Paris. *The Author.*
- Hamburg.** Bericht des Medizinalrates über die medizinische Statistik des Hamburgischen Staates für das Jahr 1902. 114 pp., 4to. Hamburg, 1903. *Dr. Reincke.*
- Harrington, Chas., M.D., and Walker, Harold, M.D.** The Germicidal Action of Alcohol. 5 pp., 4to. Boston, 1903. — The Reaction Time of corrosive sublimate in different dilutions against various species of bacteria. 5 pp., 4to. Boston, 1903. *The Authors.*
- Jones, J. A., M.Inst.C.E.** A Manual of Hygiene, Sanitation, and Sanitary Engineering, with special references to Indian conditions. 584 pp., 8vo. Madras, 1896. *Lady Galton.*
- Local Government Board.** Dr. Reece's Report on the Water Supply, Sanitary Circumstances, and Administration of the Thorne Rural District. 35 pp., fcp. London, 1903. — Dr. S. W. Wheaton's report on Diphtheria in the Borough of Denbigh. 9 pp., fcp. London, 1903. — Dr. R. Deane Sweeting's report on the general sanitary circumstances of the Parish of Loose in the Rural District of Maid-

- stone, with especial reference to drainage and excrement disposal. 6 pp., fcp. London, 1903.
- Local Government Board.** Dr. Darra Mair's report on the sanitary circumstances of the Ashington Urban District and on recent Enteric Fever therein. 14 pp., fcp. London, 1903.
- Supplement containing the report of the Medical Officer for 1901-2. 637 pp. (plates), 8vo. London, 1903.
- W. H. Power, C.B., F.R.S.*
- London.** Transactions of the Cremation Society of England. No. XVI. 39 pp., 8vo. London, 1903. *The Society.*
- A Code of Rules for the Prevention of Infectious and Contagious Diseases in Schools. Issued by the Medical Officers of Schools' Association. Fifth and enlarged Edition. 56 pp., 8vo. London, 1902. *Purchased.*
- Report of the National Hospital for the Paralysed and Epileptic. 147 pp., 8vo. London, 1903. *The Hospital.*
- The Hennebique System of Concrete Construction. Paper by Augustus R. Galbraith, read at the Royal United Service Institution. 17 pp., 8vo. London, 1902. *The Society of Engineers.*

#### MEDICAL OFFICERS OF HEALTH AND OTHER SANITARY REPORTS.

<b>Aberdeen, 1902; June and July, 1903</b>	.. ..	<i>Matthew Hay, M.D.</i>
<b>Birkenhead, 1902</b>	.. ..	<i>R. Sydney Marsden, D.Sc., M.B., M.O.H.</i>
<b>Blackburn, 1902</b>	.. ..	<i>Alfred Greenwood, M.D., D.P.H.</i>
<b>Calcutta, 1902</b>	.. ..	<i>J. N. Cook, D.P.H.</i>
<b>Carnarvonshire, 1902</b>	.. ..	<i>P. Fraser, M.D., B.Sc.</i>
<b>Durham, 1902</b>	.. ..	<i>T. Eustace Hill, M.B., B.Sc., F.I.C.</i>
<b>Glasgow, 1902</b>	.. ..	<i>A. K. Chalmers, M.D.</i>
<b>Greenwich, 1902</b>	.. ..	<i>Ernest Geo. Annis, M.R.C.S., D.P.H.</i>
<b>Hackney, 1902</b>	.. ..	<i>J. King-Warry, M.D.Lond., M.R.C.P.</i>
<b>Huddersfield, 1902; 1903 (2nd qtr.)</b>	.. ..	<i>S. G. Moore, M.D., D.P.H.</i>
<b>Lambeth, 1902</b>	.. ..	<i>Joseph Priestley, B.A., M.D., D.P.H.</i>
<b>Lanark, 1902</b>	.. ..	<i>John T. Wilson, M.D., D.P.H.</i>
<b>Lewisham, 1903</b>	.. ..	<i>A. Wellesley Harris, M.R.C.S., D.P.H.</i>
<b>Liverpool, 1902</b>	.. ..	<i>E. W. Hope, D.Sc., M.D.</i>
<b>London, City of, 1903; 1903 (September)</b>	.. ..	<i>W. Collingridge, M.A., M.D.</i>
<b>Nottingham, 1902</b>	.. ..	<i>Philip Boobyer, M.D.</i>
<b>Oldham, 1902</b>	.. ..	<i>James B. Wilkinson, M.D., D.P.H.</i>
<b>Paddington, 1902</b>	.. ..	<i>Reginald Dudfield, M.A., M.B., D.P.H.</i>
<b>Port Elizabeth, 1902</b>	.. ..	<i>S. Henry Kemp, Chief San. Inspector.</i>
<b>Salford, 1902, 1903 (1st qtr.)</b>	.. ..	<i>C. H. Tattersall, M.R.C.S., D.P.H.</i>
<b>Staines, 1902</b>	.. ..	<i>C. Dwight Morris, L.R.C.P., M.O.H.</i>
<b>Stepney, 1902</b>	.. ..	<i>D. L. Thomas, M.R.C.S., D.P.H.</i>
<b>St. Helens, 1902</b>	.. ..	<i>F. Drew Harris, M.D.Lond., D.P.H.</i>

- Stockport, 1902 .. .. *Meredith Young, M.D., D.P.H.*  
 Sunderland, 1902 .. .. *Harold Scurfield, M.D., C.M., D.P.H.*  
 Sydney, Metropolitan, 1902 *W. G. Armstrong, M.B., Ch.M., D.P.H.*  
 Westminster, 1902 .. .. *Francis J. Allan, M.D., D.P.H.*  
 West Riding, May, 1903 .. *James R. Kaye, M.D., C.M., D.P.H.*  
 Wolverhampton, 1902 .. .. *Henry Malet, B.A., M.D., B.Ch.*  
 Woolwich, 1902 .. .. *Sidney Davies, M.A., M.D., D.P.H.*  
 York, 1902 .. .. *Edmund M. Smith, M.D., C.M., D.P.H.*

- Manchester.** Rivers Department. Annual Report for the year ending March 25th, 1903. 34 pp., Sup. Royal. Manchester, 1903. *Ald. B. T. Leech.*
- Manson, Patrick, M.D., C.M.G., F.R.S.** The relation of the Panama Canal to the introduction of Yellow Fever into Asia. 40 pp., 8vo. London, 1903. *The Author.*
- Metropolitan Asylums Board.** Annual Report, 1902. 365 pp., 8vo. London, 1903. *The Board.*
- Moseley, Rev. H., M.A., F.R.S.** The Mechanical Principles of Engineering and Architecture. 627 pp., 8vo. London, 1843. *Lady Galton.*
- New Jersey.** State Board of Health. Report of the Bureau of Vital Statistics of the State of New Jersey for 1901. 382 pp., 8vo. Trenton, 1903. *The Board.*
- New South Wales.** Journal and Proceedings of the Royal Society of New South Wales. Edited by the Honorary Secretaries. 370 pp., 8vo. Sydney, 1903. *The Society.*
- Ottawa.** Inland Revenue Department. Bulletin No. 85—Canned Meats; Bulletin No. 86—Fertilizers; Bulletin No. 87—Canned Vegetables. 57 pp., 8vo. Ottawa, 1903. *Thomas MacFarlane.*
- Paris.** *Annales des Ponts et Chaussées.* 1<sup>re</sup> Partie: Mémoires et Documents relatifs à l'Art des Constructions et au Service de l'Ingénieur. 1903, 1<sup>er</sup> trimestre. 453 pp., 8vo. Paris, 1903. *L'Inspecteur-Général Secrétaire de la Commission.*
- Premier Congrès d'Assainissement et de Salubrité. 449 pp., 8vo. Paris, 1895. *Lady Galton.*
- Pearse, Frederick, F.R.C.S. Eng.** Mosquitoes and Malaria. 46 pp., 8vo. Calcutta, 1902. *The Author.*
- Queensland.** Report on the Outbreak of Plague in the State of Queensland. Feb.—May, 1903. 23 pp., 8vo. Brisbane, 1903. *B. Burnett Ham, M.D., D.P.H.*
- Registrar-General.** England & Wales. Sixty-fourth Annual Report of Births, Deaths, and Marriages. 320 pp., 4to. London, 1903. *Registrar-General.*
- Reid, A. H.** The Sanitation of Buildings and Building Areas. 15 pp., 8vo. Cape Town, 1903. *The Author.*
- Saltet, Prof.** In Memoriam of Prof. Wm. Henry Corfield. 2 pp., 8vo. *The Author.*

- United States of America.** Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Second Series. Vol. VIII., Insane—Kythospitalet. 894 pp., 4to. Washington, 1903. *The Surgeon-General.*
- Wallis, Sowerby H., and Mill, Hugh R., D.Sc., LL.D.** British Rain-fall, 1902. 250 pp., 8vo. London, 1903. *The Authors.*
- Watson, J. D., M.Inst.C.E.** The Purification of Sewage, with special reference to the works of the Birmingham, Tame, and Rea District Board. Appendix (plates). 57 pp., 4to. Birmingham, 1903. *The Author.*
- West Ham. Municipal Technical Institute.** Program of Day and Evening Classes for the Sixth Session, 1903-1904. 194 pp., 8vo. London, 1903. *A. E. Briscoe, B.Sc., A.R.C.Sc.*
- Young, Meredith, M.D., D.P.H.** Special Report on an Outbreak of Small-pox, 1902-3. County Borough of Stockport. 27 pp., 8vo. Stockport. *The Author.*

In addition to the books presented to the Library, the following works connected with Sanitary Science have been published during the quarter:—

- Allan, F. J., M.D., D.P.H.** Aids to Sanitary Science. Second Edition, revised and edited by R. A. Farrer, M.A., M.D. London, 1903. Ballière, Tindall, & Cox.
- Allen, John Parnell.** Practical Building Construction. Fourth Edition. London, 1903. Crosby, Lockwood, & Son.
- Blyth, A. Wynter, M.R.C.S.Eng., F.I.C., F.G.S., and Blyth, M. Wynter, B.A., B.Sc., F.I.C., F.C.S.** Foods: their composition and analysis. Fifth Edition, thoroughly revised. London, 1903. C. Griffin & Co., Ltd.
- Buchan, David W.** The House Healthful: Vital Points for Proprietors, House Agents, and Householders. Glasgow: Jack & Carrick.
- Clark, Jackson J., M.B., F.R.C.S.** Protozoa and Disease.—Part I. London, 1903. Ballière, Tindall, & Cox.
- Connell, Isaac, L.S.C., Edinburgh.** The Law affecting Building Operations, and Architects and Builders' Contracts. Edinburgh, 1903. W. Green & Sons.
- Duckworth, Laurence, Barrister.** The Consumer's Handbook of the Law relating to Gas, Water, and Electric Lighting. Second Edition. London, 1903. Effingham Wilson.
- Foulerton, Alexander G. R., F.R.C.S.Eng., D.P.H., and Cole, R. Langton, F.R.I.B.A.** A Model Sanatorium for Tuberculosis. Rebman, Limited.
- Funck, M.** Manuel de Bacteriologie Clinique. Second Edition. Bruxelles, 1903. Henri Lamertin.
- Middleton, Reginald E., M.Inst.C.E.** Water Supply: A Student's Handbook on the conditions governing the selection of sources and the distribution of Water. London: C. Griffin & Co. 1903.

- Poore, *Geo. Vivian, M.D., F.R.C.P.* Essays on Rural Hygiene. Third Edition. London, 1903. Longmans, Green & Co.
- Parsons, *James, Barrister-at-Law.* Housing by Voluntary Enterprise. London: P. S. King & Son.
- Report of the Sanitary Administration of Burma for the year 1901. London: Messrs. H. S. King & Co.
- Stephens, *J. E. R.* Digest of Highway Cases, together with all the principal Statutes relating to Highways, Bridges, and Locomotives. London: The Sanitary Publishing Co.
- Thomas, *J. W., F.I.C., F.C.S.* The Ventilating, Heating, and Management of Churches and Public Buildings. London, 1903. Longmans, Green, & Co.
- Townsend, *C. F., F.R.S.* Heating and Ventilation of Houses (No. 3 of "Rural Handbooks"). Dawburn & Ward.
- Whinery, *S.* Municipal Public Works: their inception, construction, and management. Macmillan & Co., Ltd.

## EXHIBITS ADDED TO THE MUSEUM.

JULY TO SEPTEMBER, 1903.

- |   |   |   |
|---|---|---|
| Lattice-gearcd, Quick-opening Penstock.                       | } | <i>W. E. Farrer.</i>                              |
| Adjustable Cistern Bracket.                                   |   |   |
| Exhaust Ventilating Fan (Electric).                           |   | <i>Mathews &amp; Yates.</i>                       |
| Germ Tube in Section.   | } | <i>Slack &amp; Brownlow.</i>                      |
| Covering of Cloth for Filters.                                |   |   |
| School Desk, adjustable, with Pad for Back.                   | } | <i>North of England<br/>School Furnishing Co.</i> |
| Model of Movable Partition.                                   |   |   |
| Model of Connection of Pipe Joint.                            |   | <i>Freeman &amp; Hines, Ltd.</i>                  |
| Smoke Rockets for Drain Testing.                              |   | <i>Pain &amp; Sons.</i>                           |
| Ventilating Window (Operated Mechanically).                   |   | <i>G. A. Chaddock.</i>                            |
| Diagrams Illustrating the Anatomy of Cattle, Sheep, and Pigs. |   | <i>W. Hunting.</i>                                |
| Lead Model W.-C. for Experimental Purposes.                   |   | <i>Doulton &amp; Co.</i>                          |
| The "Concussion" Chemical Fire Extinguishers (2).             |   | <i>William Millar.</i>                            |
| Drain Testing Plug (Reekie's).                                |   | <i>Reekie &amp; Sons.</i>                         |
| Do. do. ("The Addison").                                      |   | <i>Nichollas &amp; Clarke, Ltd.</i>               |
| Lingner's Disinfecting Apparatus.                             |   | <i>Odel Chemical Works.</i>                       |
| Triscuit and Biscuit Prepared Foods.                          |   | <i>Shredded Wheat Co.</i>                         |
| "Uraline" Fireproof and Vermin Proof Slabs.                   |   | <i>Uraline Co.</i>                                |

## GENERAL NOTES.

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The following communication has been received from the Colonial Office in reference to the Examinations of the Institute in South Africa.

DOWNING STREET,

*10th September, 1903.*

The Under Secretary of State for the Colonies presents his compliments to the Secretary, Sanitary Institute, and is directed by the Secretary of State to transmit, for the information of the Sanitary Institute with reference to the letter from Mr. Wallis of the 15th May last, a copy of the Despatch noted in the subjoined Schedule, on the subject of the arrangements made for the holding of Examinations in Sanitary Knowledge in South Africa.

GOVERNMENT HOUSE,

PIETERMARITZBURG, NATAL,

*12th August, 1903.*

SIR,

I have the honour to acknowledge the receipt of your Despatch general of the 23rd May, and to transmit copy of Notice which has appeared in the Government Gazette setting forth the arrangements made by the Sanitary Institute for holding Examinations in sanitary knowledge in South Africa.

I have the honour to be, Sir,

Your most obedient humble Servant,

(Sd.) HENRY MCCALLUM.

The Right Honourable  
The Secretary of State for the Colonies,  
&c., &c., &c.

NATAL.

Enclosure in Despatch No. 239 of the 12th August, 1903.

*Government Notice No. 556, 1903.*

IT IS HEREBY NOTIFIED, for general information, that arrangements have been made by the Sanitary Institute of the United Kingdom for extension to South Africa of Examinations in Sanitary Knowledge for Inspectors of Nuisances. A Board of Examiners has been appointed for South Africa, the offices of which are at present established at 4, Church Square, Cape Town.

Periodical Examinations will be held at different centres in South Africa, and Certificates issued in due course by the Institute to successful candidates.



These Certificates are accepted by the Local Government Board of England as evidence of qualification for the office of Sanitary Inspector, or Inspector of Nuisances, in sanitary districts outside London.

The first Examination will be held on October 2nd and 3rd, 1903, in Capetown, but if a sufficient number of candidates in Natal should offer themselves, an Examination would be held on the same days in Maritzburg or Durban.

A pamphlet containing the particulars relating to the Examinations, and copies of previous examination papers, may be had on application to the Secretary, 4, Church Square, Capetown, price 6d., as well as forms of application to be filled in by candidates.

Further information may be obtained on application to the Health Officer for the Colony, Town Hall, Pietermaritzburg.

J. W. F. BIRD,  
Acting Principal Under Secretary,

Colonial Secretary's Office, Natal,  
*7th August, 1903.*

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## EXAMINATIONS.

**DATES AND PLACES ARRANGED FOR  
1904.**

### IN PRACTICAL SANITARY SCIENCE

AND

### FOR INSPECTORS OF NUISANCES,

*Under the Public Health Act, 1875.*

PLYMOUTH	...	...	February 12th and 13th.
EDINBURGH	...	...	March 4th and 5th.
LIVERPOOL	...	...	March 18th and 19th.
BIRMINGHAM	...	...	April 15th and 16th.
LONDON	...	...	May 6th and 7th.
MANCHESTER	...	...	June 3rd and 4th.
LEEDS	...	...	June 10th and 11th.
CORK	...	...	June 24th and 25th.
CARDIFF	...	...	July
LIVERPOOL	...	...	July
NOTTINGHAM	..	...	October 21st and 22nd.
NEWCASTLE	...	...	November 4th and 5th.
MANCHESTER	...	...	November 18th and 19th.
LONDON	...	...	December 9th and 10th.

### FOR INSPECTORS OF MEAT AND OTHER FOODS

LEEDS	...	...	March 11th and 12th.
LONDON	...	...	May 13th and 14th.
GLASGOW	...	...	June 17th and 18th.
LIVERPOOL	...	...	October 14th and 15th.
LONDON	...	...	December 16th and 17th.

### IN PRACTICAL HYGIENE FOR SCHOOL TEACHERS.

HASTINGS	...	...	...	January 8th and 9th.
LONDON	...	...	...	February 5th and 6th.
EDINBURGH	...	...	...	March 4th and 5th.
LEEDS	...	...	...	June 10th and 11th.

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### COLONIAL EXAMINATIONS.

CANADA. AUSTRALIA. BRITISH SOUTH AFRICA.  
HONG KONG.

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*For particulars apply to E. WHITE WALLIS, Secretary of The  
Sanitary Institute, 72, Margaret Street, London, W.*



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OF  
THE SANITARY INSTITUTE.

PUBLISHED QUARTERLY.

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SUPPLEMENT TO THE  
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REVIEWS OF BOOKS.

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THE PURIFICATION OF SEWAGE AND WATER.\*

This work has increased by rather more than half its volume since it was first issued in 1897, at a time when the bacterial treatment of sewage was almost entirely in an experimental stage. Mr Dibdin reminds us that a reference to the question in his paper at the Institute of Civil Engineers in 1887, some ten months before the Massachusetts experiments were commenced, was received with pronounced scepticism. It is now generally agreed that modern methods of bacterial treatment are more under control than that on land in a large number of instances. The author refers gracefully to the value of the continuation of his experiments by his successor, Dr. Clowes, and to the work of others, and the additions include an account of the results of recent investigations, and a summary of the conclusions of the Royal Commission on Sewage Disposal up to their third Report. In chapter VII. the subject of Land *v.* Bacteria Beds is clearly, though rather scantily discussed, but we do not think the diagrams are much assistance to the text. A chapter, of only two pages, is devoted to Screening, and Factory refuse has a brief chapter of eight and a half pages. Chapter XIII., on the Discharge of Sewage into Sea-water, gives some valuable quotations on the contamination of shell-fish. The ordinary processes of analysis are not described in this edition, with the exception of the author's micro-filter and modified method for dissolved oxygen.

S. R.

FOODS: THEIR COMPOSITION AND ANALYSIS.†

This well-known manual, first produced by Dr. Blyth in 1879, here reaches a fifth edition under the collaboration of his son. Since the

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\* The Purification of Sewage and Water. By W. J. Dibdin, F.I.C., F.C.S., 3rd edition, revised and enlarged. 8vo. 379 pp. Sanitary Publishing Co., Fetter Lane. 1903. 21s. net.

† Foods: Their Composition and Analysis. By Alex. Wynter Blyth, M.R.C.S., F.I.C., F.C.S., and Meredith Wynter Blyth, B.A., B.Sc., F.I.C., F.C.S., Fifth edition. Chas. Griffin & Co. Demy 8vo. 616 pp. 1903.

last edition the investigations of Parliamentary Committees have resulted in fresh legislation and in the fixing of limits of purity for milk, butter and margarine, while many new analytical processes have been introduced. The work, therefore, has been to a great extent rewritten, and room has been made for the new matter by judicious compression. The additions particularly affect the subjects of arsenic in food, the analysis of spices, and the bacteriology of water, but are also noticeable throughout the book. On p. 559 a statement that "the presence of *B. coli* and its near allies in anything but the smallest numbers is conclusive evidence of sewage contamination," is modified a little later into "the cause of the presence of *B. coli* should always be sought, and a water persistently found to contain it should not be declared absolutely safe until it is known that the organisms are not derived from sewage pollution." As to dissolved oxygen it is to be regretted that Bunsen's early determinations are given (p. 533) instead of Roscoe and Lunt's more accurate table in *Trans. Chem. Soc.*, 1889, 552. We may observe that Blyth's method of a *plus* correction (p. 535) does not eliminate the error due to nitrites, which is rather in excess than deficiency. In the valuable and interesting section on food we notice only a few points that might be amended: lemon and lime juice are placed in the contents under the heading "Vinegar;" "Chinese Peas" are more commonly known as the Soy Bean: misprints, such as "fugative" (p. 242) are rare. The illustrations are good, and no less than 69 tables give information of great use.

S. R.

#### LESSONS IN DISINFECTION AND STERILISATION.\*

This little book (there are only 202 pp. of actual text) is put forward as an expansion of the lectures and practical work at a class which the author conducted for some of the nursing staff of St. Bartholomew's Hospital in 1902. But, as Dr. Klein remarks in his commendatory letter appended to the preface, it will be equally useful to medical practitioners, and to all brought in contact with contagion, as an introduction to the "why and wherefore" of disinfection. It is natural for a first edition to contain a few points which might be improved. On p. 55 "raw" cotton-wool is inadvisedly recommended; it is apt to cloud the tubes on sterilisation by heat. For this purpose the temperature mentioned on the next page, 400° F., or 204° C., is too high, as 170° or 180° C. is sufficient, and a greater heat injures or even chars the plugs. In Lesson VII aerial disinfection, and the sterilisation of fluids by filtration, are very scantily treated and dismissed in 7 pages. Space might be spared from the highly

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\* Lessons in Disinfection and Sterilisation, an Elementary Course of Bacteriology together with a Scheme of Practical Experiments illustrating the Subject Matter. By F. W. Andrews, M.A., M.D., etc., Lecturer on Pathology, Bartholomew's Hospital. Small 8vo., 222 pp., 31 figures. Churchill, 1903. 3s. nett.

picturesque description of ionization, pp. 85 to 87. On p. 115, "half an hour's boiling" would not be sufficient to destroy "all pathogenic spores." On p. 109 the strength of the washing soda solution should be indicated. The author's depreciation of iodide as compared with chloride of mercury (p. 91) requires confirmation. Cresols have been proved to be more active than phenol, yet the singular remark is made on p. 96 that "cresol and the other bodies allied to phenol are not much less active than phenol itself." The book, however, will be distinctly helpful to beginners.

S. R.

#### AIDS TO SANITARY SCIENCE.\*

The first edition of this small work met with a favourable reception, and proved very useful to candidates preparing for public health qualifications as a trustworthy compendium of facts pertaining to hygiene and public health. The second edition, revised and edited by Dr. Reginald Farrar, is therefore welcome.

The small summary of information is so good in most respects that it seems a pity that sketchy analytical and bacteriological notes, of relatively little value, should be included in such a small work, when the space allotted to them could be profitably filled by extending the other subject-matter.

H. R. K.

#### ESSAYS ON RURAL HYGIENE.†

While all earnest sanitarians must welcome a third edition of this instructive and interesting work, they cannot fail to regret in perusing it that its writer should persistently ignore the fact that the sanitary executive of the present day have to deal with men and things as they are, and not as they ought to be. When the ideals of the Early Christians, of Sir Thomas More, of Mr. Herbert Spencer shall be realised, then perhaps we may begin to expect the average proletarian to interest himself in the decent and economic disposal of his personal dejecta, and generally to co-operate in an intelligent manner with those who desire to amend his lot.

In issuing a third edition of this work, Dr. Poore has brought his material up to date and re-arranged a great deal of it.

The first subject dealt with is the over-concentration of communities in towns, and by way of remedy the sanitary and economic advantages of the *rus in urbe* are portrayed. The disadvantages economic and sanitary attaching to the water-carriage of sewage are next described, and then the function of humus in converting organic matter into plant food by natural and inoffensive nitrification. The unnatural system of feeding our multitude with imported foodstuffs to the exclusion of home-grown material is condemned, together with

\* *Aids to Sanitary Science*. By F. J. Allan, M.D., D.P.H. 2nd Edition, revised and edited by R. A. Farrar, M.A., M.D., D.P.H. Baillière, Tindall, and Cox. 257 pp., 16mo. London, 1903. Price 4s. 6d.

† *Essays on Rural Hygiene*. Third Edition. By G. Vivian Poore, M.D., F.R.C.P. 419 pp., 8vo. Longmans & Co. London, 1903. Price 6s. 6d.



the growing demand for gigantic schemes of public water supply (instead of local wells).

The modern self-contained house, fitted with the so-called latest sanitary improvements, is utterly condemned, and we are told—we heartily wish we could believe it as a general proposition—that a “cottage (orné if you like) built on a slight eminence or on the slope of a hill, well exposed to the sun, and with a quarter of an acre of land, is no Utopian idea.” Such a cottage should have neither cess-pool nor sewer. No filth must be accumulated, but be returned every day to the soil.

The essential part played by vegetation in the purification of soil and atmosphere is insisted on, and a gloomy picture drawn of the state of human life in cities where vegetation has no place, either for lack of room to plant it or on account of its own inability to survive.

The fundamental error of fouling water with sewage and other unwholesome matters is pointed out. The sole method, at once economically and scientifically sound, of dealing with sewage, we are told, is to subject it to the salutary action of the humus. Dr. Poore then gives in detail his personal experience of the successful use of nightsoil as garden manure. Speaking with twenty years’ experience, he says, “I have no hesitation in stating my belief that for horticultural purposes closet manure is unsurpassed.”

Urine he still treats by absorbing it into sawdust, using the mixture as manure as soon as it becomes offensive. It is, however, an extraordinary fact that sawdust can be repeatedly used in this way without giving off an offensive odour.

Speaking of the purification of water-supplies, he says: “The fact that purification of water is effected by a living film on the top of the filters is calculated to impress one with the potency to this end of the living earth,” and “must cause us to reconsider the value of surface wells, provided these can be properly protected from surface contamination.” “The best surrounding for a well is probably turf, and the next is well-tilled humus.”

Dr. Poore, as might be expected, still prefers burial to cremation for the disposal of the dead. If, he says very truly, “we wish a body to undergo a rapid and inoffensive dissolution, we must bury it in the earth, and we must be careful not to bury it too deeply.”

The last chapter deals with the story of Brémontier, who was the pioneer of that great work of reclamation which has converted the sand-dunes and wastes of Gascony and other similar districts into fertile regions. His principal agents for fixing the previously shifting soil was the *pinus maritima*, which is now extensively grown all over the district.

So long as the reader is content to realise that Dr. Poore’s teaching, so far at least as large centres of population are concerned, is for ideal communities only, the book can do nothing but good; but any attempt to apply its axioms at all generally to existing conditions in our great cities would entail inevitable disappointment if nothing worse.

We must all agree with Dr. Poore, Lord Rosebery, and others in

deprecating the inordinate growth of modern municipal expenditure, and also the concentration of population in cities to the detriment alike of the immigrants and the agricultural industries which formerly afforded them occupation and sustenance. But it is hardly fair to state that "over concentration is an indirect effect of our modern sanitary methods." On the contrary modern sanitation, while helpless to stem the tide of converging people, has endeavoured to reduce overcrowding, to increase curtilage, and to keep the populations clean in spite of themselves. We know that Dr. Poore has studied the condition of medieval cities. What was the state of London from Pudding Lane to Pie Corner—even a little later than the end of the middle ages—at the time of the Plague? Let him look again at some of the Edinburgh and Glasgow wynds and courts, and other slums up and down the country, or take a trip to some old French towns, when he is inclined to forget what house-piling and crowding in cities was like before the advent of the modern sanitarian.

One extract, too, from Hecker will perhaps not be out of place here to illustrate the internal condition of poor English houses at the end of the 16th century, at the time, that is, of the third visitation of the sweating sickness (1517):—"The floors of the houses generally are made of nothing but loam, and are strewed with rushes, which being constantly put on fresh without removal of old, remain lying there, in some cases for twenty years, with fish bones, broken victuals, and other filth underneath, and impregnated with the urine of dogs and men." Well, we have changed all this, and even if the "mixing of putrescible matter with water is a fundamental scientific error," it is an improvement upon its storage in, or in the immediate vicinity of, human dwellings. We are all of course aware that water-carriage is at best only a *pis aller*, and that, in addition to its drawbacks as viewed from the sanitary standpoint, it involves a deplorable waste of fixed nitrogen, but we are also aware that the economic disposal of human dejecta is impracticable in the case of great cities; and while deploring this confession of failure and the waste involved, we comfort ourselves with the reflection that in water-carriage we are choosing to say the least of it the lesser of two evils.

P. B.

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## ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

*Abstracts of Titles classified in this List under the following headings:—*

Science in Relation to Hygiene and Preventive Medicine.  
Hygiene of Special Classes, Trades, and Professions; and  
Municipal Administration.

Building Materials, Construction, and Machinery.

Water Supply, Sewerage, and Refuse Disposal.

Heating, Lighting, and Ventilating.

Personal and Domestic Hygiene.

*The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.*

### Science in relation to Hygiene and Preventive Medicine.

"ENGINEERING RECORD," EDITOR OF. Bacteria in soil in relation to infiltration galleries for water supply. 24th Oct., 1903, p. 501.

Result of tests in galleries now in course of construction for the Brooklyn Waterworks.

—— The relation between chemical and bacterial tests of water. 24th Oct., 1903, p. 481.

Methods of chemist and bacteriologist contrasted.

FOLWELL, A. PRESCOTT, M.Am.Soc.C.E. The use and misuse of population statistics. *Engineering Record*, 26th Sept., 1903, p. 364.

Chiefly upon correctly estimating rate of growth since last census, with examples, tables, and formulæ.

GRASSMANN, Dr. K. Der Einfluss der Kurpfuscher auf Gesundheit und Leben der Bevölkerung. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 1, p. 69.

The paper deals with the influence of quacks on the health and life of the population.

PFEIFFER, Dr. A. Jahresbericht über die Fortschritte und Leistungen auf dem Gebiet der Hygiene: Bericht über 1901. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Supplement, pp. 1 to 660.

This is a very interesting report on the progress and achievements

of hygiene during the year 1901. It deals with every conceivable branch of hygiene, is well indexed, and surveys its progress in all civilized portions of the globe.

SPIESS, Dr. A. Repertorium der im Laufe des Jahres 1902 in deutschen u. ausländischen Zeitschriften erschienenen Aufsätze über öffentliche Gesundheitspflege. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 4, p. 847.

This is a very interesting summary of 231 pages, giving all the articles dealing with subjects relating to public health that have appeared in German and foreign periodicals during the year 1902. It is accompanied by an excellent index, so that it can be consulted without trouble or loss of time.

—— Neu erschienene Schriften über öffentliche Gesundheitspflege. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 4, p. 809.

This is an interesting summary of all the books and pamphlets dealing with subjects relating to public health that have lately appeared. A good index greatly facilitates any reference.

VAGEDES, Dr. Aerztliche Beobachtungen aus Deutsch-Südwest Afrika mit besonderer Berücksichtigung der Infektionskrankheiten u. der Koch'schen Malaria Bekämpfung. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 4, p. 821.

The paper deals with medical observations made in German South-west Africa, with special reference to infectious diseases and to Koch's method of dealing with malaria.

WEIMANN, Dr. H. Die Pest vom sanitätspolizeilichen Standpunkt. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 4, p. 673.

The author deals with bubonic plague from a sanitary administrative point of view.

### Hygiene of Special Classes, Trades, and Professions; and Municipal Administration.

ABEL, Dr., und OLSHAUSEN, H. Feuchte Wohnungen: Ursache, Einfluss auf die Gesundheit, und Mittel zur Abhülfe. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 1, p. 247.

The paper deals with the cause and influence upon health of damp dwellings and how to prevent them.

ADAMS, H. PERCY. Belgrave Hospital for Children, Kennington. *Builder*, 9th May, 1903, p. 488.

Description (with plan and perspective) of the buildings.

ALDWINCKLE, T. W., F.R.I.B.A. Minimising the risk of fire in temporary buildings. *Surveyor (Supplement)*, 10th July, 1903, p. 40.

Definition of "temporary building"—their construction—points to be observed in prevention of fire—non-inflammable materials—warming and lighting.

BLAIR, W. NISBET, M.Inst.C.E. Cremation. *Surveyor (Supplement)*, 10th July, 1903, p. 37.

Reference to previous papers on the subject—early crematoria in England and short history of development—crematoria at Woking, Manchester, Glasgow, etc.

"BUILDER," EDITOR OF. Sanitary regulations and houses let in flats. 18th April, 1903, p. 407.

Note upon an action, *Kyffin v. Simmons*, *re* number of persons occupying a house let out in flats.

——— Railway Hospitals. 25th April, 1903, p. 429.

Note upon American hospital railway cars, with description of same.

——— Fire Escapes. 25th April, 1903, p. 429.

Note and description of a ladder worked by compressed air, which shoots out and then, telescoping, brings the rescued occupant to the ground in safety.

——— The King's Sanatorium. 23rd May, 1903, p. 531.

Description of site at Easeborne, near Haslemere, and water supply.

CROSS, ALFRED W. S. Haggerston Public Baths. *Builder*, 18th April, 1903, p. 413.

Description (with plans and elevations) of the buildings.

EBELING, DR. Bericht über die von den Städten eingesetzten Fragebogen betr. die Fürsorge für bestehende und die Beschaffung neuer kleiner Wohnungen. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 1, p. 200.

This is an interesting report dealing with the dwellings of artisans in Germany.

EMMERICH, Dr. E. Das Bäckereigewerbe vom hygienischen Standpunkt für den Beruf und die Consumenten. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 1, p. 172.

The author deals from a sanitary point of view with the baking trade and how it affects those engaged therein and the consumer.

TURCSÁNYI, Dr. E., und ENGEL, Dr. S. Das italienische Findelwesen. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 2, p. 762.

The paper describes the system in vogue in Italy of dealing with foundlings.

### Building Materials, Construction, and Machinery.

HALL, EDWIN T. Four modern Hospitals. *R.I.B.A. Journal*, 25th April, 1903, p. 313.

Description of Seacroft Infectious Hospital, Leeds—Sanatorium for Consumptives at Frimley—Camberwell Infirmary—Killingbeck Hospital, Leeds—with plans, elevations, etc., also discussion upon the paper.

PITE, WILLIAM A. "School Buildings," by Felix Clay, B.A. *R.I.B.A. Journal*, 6th May, 1903, p. 371.

Review of Mr. Clay's book on school buildings.

PLUMBE, ROWLAND, F.R.I.B.A. New Out-Patients' Department, London Hospital. *Builder*, 13th June, 1903, p. 617.

Description of building with plan.

POWELL, W. Sanitary wood blocks in streets. *Building News*, 25th Sept., p. 401.

The preservation, seasoning, and strengthening of timber.

ROTH, Dr. E. Die Wechselbeziehungen zwischen Stadt und Land in gesundheitlicher Beziehung und die Sanierung des Landes. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 1, p. 95.

The author investigates from a sanitary point of view the relations between town and country, and also what measures may be necessary for the sanitation of country districts.

SMYTHE, FRANCIS. Trees in public roads. *Surveyor*, 3rd July, p. 10.

The effect of trees upon health—selection of trees—characteristics—planting and pruning—pests and diseases.

### Heating, Lighting, and Ventilating.

"A. H." Ventilation of Schools. *Builder*, 25th April, 1903, p. 440.

Correspondence *re* statement that heat reduces oxygen in air.

FARLEY, JAMES. The Ventilation of Schools. *Builder*, 2nd May, 1903, p. 464.

Chemical action upon air by heating—correspondence upon a statement that heating air reduces the oxygen.

### Water Supply, Sewerage, and Refuse Disposal.

"BUILDER," EDITOR OF. Incrustation in Water Mains. 30th May, 1903, p. 569.

Reply to a query raised by a correspondent upon a question asked at Sanitary Institute exam., describing methods and apparatus used for removing incrustation.

——— Drain or Sewer? 25th April, 1903, p. 429.

Note upon an action, *Silles v. Fulham Borough Council*.

CLOWES, PROFESSOR FRANK, D.Sc. The experimental bacterial treatment of London Sewage. *Surveyor*, 3rd July, 1903, p. 4.

General history of experimental bacterial treatment—summary of experimental work of the Council.

FRANKLAND, PERCY, LL.D., F.R.S. Bacterial treatment of Water and Sewage up to date. *Engineering*, 3rd July, 1903, p. 32.

Methods of bacterial purification on land—different methods of preliminary treatment—contact beds—effluent—storm-water—trade effluents—bacterial sewage works at present in operation.

GAERTNER, Dr. A., und SCHUEMANN. Die hygienische Ueberwachung der Wasserläufe. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 1, p. 15.

This is a very painstaking report on the sanitary supervision of watercourses, *i.e.*, the prevention of rivers pollution. The authors sum up their views in 9 conclusions, which deal with the measures to be adopted for the prevention of pollution.

GORDON, JOHN, A.M.I.C.E. Notes on Aberdeen Waterworks. *Surveyor*, 28th August, 1903, p. 269.

Present supply of Aberdeen—intake and aqueduct—Invercarnie reservoir—mid-service reservoir—high-service reservoir—pumping station—irrigation farms—by-laws—meters—suggested new supply.

**GRIFFITH, PERCY, M.Inst.C.E.** The raising of water by compressed air. *Engineering*, 3rd July, 1903, p. 33.

The apparatus—cost of working in comparison to older method—cases in which the use of compressed air is justified—general points to be borne in mind when an air-lift installation is contemplated.

**HENMAN, WILLIAM, F.R.I.B.A.** Modern Hospital Ventilation. *R.I.B.A. Journal*, 6th May, 1903, p. 367.

Correspondence with Mr. Edwin T. Hall.

**HUMPHRIES, HERBERT H.** Ventilation of Sewers and Drains. *Builder*, 2nd May, 1903, p. 459.

Methods for managing sewers, both in construction and arrangement of ventilators, to reduce the chance of causing a nuisance—abolition of intersecting trap desired.

**IRONS, ERNEST E.** Ferrous sulphate as a coagulant in the mechanical filtration of water. *Building News*, 28th August, 1903, p. 268.

The purification of drinking water at Quincy—description of plant—experiments—tables of analyses and cost—favorable comparison with other methods as to efficiency and cost.

**LIERNUR, FRANCIS.** Pneumatic Sewerage. *Surveyor (Supplement)*, 10th July, 1903, p. 45.

The Liernur system at Stansted—cost of works per 1,000 population—working expenses—the installation at Trouville and Amsterdam.

**MAXWELL, WILLIAM H., A.M.I.C.E.** The raising of water from deep wells and borings by compressed air. *Surveyor*, 11th Sept., 1903, p. 324.

The installation at Tunbridge Wells—experiments in the United States—tables of approximate horse-power required to compress air—description of plant at Tunbridge Wells—cost of working—comparisons between different systems of pumping.

——— Underground water supplies. *Surveyor*, 26th June, 1903, p. 761.

Geological information—quality of underground water—water-bearing strata—conditions determining the quantity of water obtainable—rainfall and percolation—depletion of underground supplies—types of pumping machinery, etc., for deep well supplies.

**PARKYN, E. A.** The water supply of London. *Surveyor*, 7th August, 1903, p. 180.

Ancient wells in London—the Thames supply—the river Lea supply—New River—the history of the water companies—cholera epidemics—the future supplies for London.



SWINDLEHURST, R. H. Presidential Address to British Association of Waterworks Engineers. *Surveyor*, 24th July, 1903, p. 120.

Duties of public bodies as to water supply—question of rainfall—purification of water.

### Personal and Domestic Hygiene.

AUST, Dr. Die gesundheitlichen Gefahren der Milchversorgung und die Nothwendigkeit einer strengeren Milchkontrolle. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 4, p. 727.

The author investigates the sanitary dangers of our milk supplies and suggests measures for its stricter control.

OHLEN, Dr. VON. Was hat uns die Hamburger Ausstellung für hygienische Milchversorgung bezüglich der Kindermilch gelehrt? *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXV., Heft 4, p. 747.

The author deals with the lessons derived from the last Hamburg Dairy Exhibition, so far as the milk supply of children is concerned.

## MEETINGS HELD SEPTEMBER–DECEMBER, 1903.

### PROVINCIAL SESSIONAL MEETING.

A Sessional Meeting was held in the Town Hall, Leicester, on December 5th. The Mayor (Ald. A. E. Sawday, J.P.), welcomed the Institute, and Mr. W. Whitaker, B.A., F.R.S., F.G.S., Chairman of Council, presided at the discussion on "The Collection, Disposal, and Utilization of Town Refuse in Leicester." The discussion was opened by F. W. Allen, A.M. Inst.C.E., and followed by Ald. T. Windley, J.P., Coun. A. Shaw, E. George Mawbey, M.Inst.C.E., and C. Killick Millard, M.D., D.Sc. In connection with the meeting a visit was arranged to the Nedham Street and West Humberstone Destructors, by kind permission of the Sanitary Committee of the Leicester Corporation. 75 members and visitors attended the meeting.

A Sessional Meeting was also held in London on December 9th, Sir Benjamin Baker, K.C.M.G., LL.D., F.R.S., M.Inst.C.E. (Fellow), in the chair, when a discussion was opened on "The Flooding of Basements in London by Sewage." The

discussion was opened by Maurice Fitzmaurice, C.M.G., M.A., M.A.I., M.Inst.C.E., and H. R. Kenwood, M.B., D.P.H. (Fellow). 80 members and visitors attended the meeting.

### EXAMINATIONS.

From September to December the following Examinations were held:—

#### PRACTICAL SANITARY SCIENCE.

Nov. 6 & 7, 1903,	Newcastle-upon-Tyne	}	1 Candidate,	0 Certificates.
Nov. 20 & 21, 1903,	Manchester			
Dec. 11 & 12, "	London		4 "	2 "
			13 "	9 "

#### INSPECTORS OF MEAT AND OTHER FOODS.

October 16 & 17, 1903,	Bristol	5 Candidates,	1 Certificate.
December 18 & 19, "	London	20 "	18 "

#### INSPECTORS OF NUISANCES.

Oct. 2 & 3, 1903,	Cape Town, S.A.	17 Candidates,	9 Certificates.
Oct. 23 & 24, 1903,	Derby	78 Candidates,	34 Certificates.
Nov. 6 & 7, "	Newcastle-upon-Tyne	}	61 "
Nov. 20 & 21, "	Manchester		
Dec. 1 & 2, "	Montreal		78 "
Dec. 11 & 12, "	London		1 "
			71 "

### CANDIDATES WHO HAVE RECEIVED CERTIFICATES,

OCTOBER—DECEMBER, 1903.

#### *Practical Sanitary Science.*

1903, Nov. 21.	BOTTOMLEY, GIBSON.
1903, Dec. 12.	BRIDEL, GEORGE JAMES.
1903, Dec. 12.	BUTCHER, MALCOLM HENRY.
1903, Dec. 12.	DAVIES, ENOCH CHRISTOPHER.
1903, Dec. 12.	GOODE, WILLIAM JOHN.
1903, Nov. 21.	HETHERINGTON, THOMAS BRAITHWAITE.
1903, Dec. 12.	JACOBS, PAUL GEORGE, ASSOC.M.INST.C.E.
1903, Dec. 12.	KING, JAMES ERNEST.
1903, Dec. 12.	LORETZ, LOUIS FERDINAND GUISEPPE.
1903, Dec. 12.	MARSH, OLIVER WILLIAM.
1903, Dec. 12.	YOUNG, ARTHUR GEORGE.

*Inspector of Meat and other Foods.*

1903, Dec. 19.	ALMOND, JOHN.
1903, Dec. 19.	BRODIE, ALEXANDER MALCOLM.
1903, Dec. 19.	BURR, WILLIAM WALKER.
1903, Dec. 19.	BUTLAND, RICHARD JOHN.
1903, Dec. 19.	CHUTER, ALFRED.
1903, Dec. 19.	DEE, THOMAS WILLIAM.
1903, Dec. 19.	FALCONER, ALEXANDER ROBERTSON, M.B.
1903, Oct. 17.	FARRELL, FRANK.
1903, Dec. 19.	FRANKLIN, EDWARD JAMES.
1903, Dec. 19.	GATHERCOLE, WILLIAM HENRY JOSEPH.
1903, Dec. 19.	HANCOCK, THOMAS HENRY
1903, Dec. 19.	HUDSON, ALBERT EDWARD.
1903, Dec. 19.	MCDONALD, JOHN FORBES.
1903, Dec. 19.	PENNY, BERNARD.
1903, Dec. 19.	PEVERETT, ARTHUR.
1903, Dec. 19.	RANCE, JOHN WALTER.
1903, Dec. 19.	SOWERBUTTS, FREDERICK.
1903, Dec. 19.	TEDHAM, WILLIAM
1903, Dec. 19.	WILSON, ARTHUR SAMUEL.

*Inspectors of Nuisances.*

1903, Nov. 21.	ADAMS, ALEXANDER.
1903, Oct. 24.	ADAMS, LUTHER.
1903, Dec. 12.	ADKINS, PERCY CHARLES.
1903, Dec. 12.	ALDERSON FRANK.
1903, Dec. 12.	ALLAWAY, ALBERT EDWARD.
1903, Oct. 24.	ALLEN FRANK.
1903, Oct. 24.	ALLSOPP, HERBERT
1903, Dec. 12.	ANDERSON, ALBERT.
1903, Oct. 3.	ARTHUR, WILLIAM CHARLTON.
1903, Nov. 21.	ASHWORTH, GEORGE WILLIAM.
1903, Nov. 21.	ARCHER, WILLIAM EWART.
1903, Nov. 7.	ARKLE, JAMES.
1903, Dec. 12.	BALDWIN, ARTHUR ROBERT.
1903, Dec. 12.	BANCROFT, JOHN HENRY.
1903, Dec. 12.	BANGER, FRANK WILLIAM GODFREY.
1903, Nov. 21.	BATES, WILLIAM.
1903, Nov. 7.	BELL, WALTER.
1903, Oct. 24.	BETTS, THOMAS.
1903, Oct. 24.	BILLINGTON, SAMUEL.
1903, Nov. 21.	BIRTLES, JOSHUA HENRY JOSEPH.
1903, Dec. 12.	BIRTWISLE, THOMAS ERNEST.
1903, Nov. 7.	BLACKETT, EDWIN ROBSON.
1903, Nov. 21.	BOLTON JAMES.
1903, Oct. 24.	BOOTH, ALBERT, EDWARD.
1903, Nov. 21.	BRADSHAW, ALBERT.
1903, Nov. 21.	BRADSHAW, ALFRED HERBERT.
1903, Dec. 12.	BROOK, EDWIN WILLIAM AMBROSE.

1903, Dec. 12. BRUTON, HAROLD GEORGE.  
 1903, Nov. 21. BUDDS, WILLIAM J.  
 1903, Oct. 24. BULLOCK, ARTHUR.  
 1903, Dec. 12. BUNKER, FREDERICK WILLIAM.  
 1903, Nov. 7. BURTON, WILLIAM.  
 1903, Nov. 7. *L* BUTCHER, AGNES D.  
 1903, Nov. 21. CARROLL, JAMES WILLIAM.  
 1903, Nov. 21. CASSIDY, THOMAS.  
 1903, Dec. 12. *L* CHURTON, MARY ANNETTE.  
 1903, Nov. 21. CLAGUE, SIDNEY HERBERT.  
 1903, Nov. 7. CLARK, MARK LAWRENCE.  
 1903, Dec. 12. CLARKE, JOHN HENRY.  
 1903, Nov. 21. CLEGG, ROBERT, JUNR.  
 1903, Nov. 21. COLLINS, ROBERT K.  
 1903, Nov. 21. COTTERILL, WALTER.  
 1903, Oct. 24. CROSS, HARRY OSBORN.  
 1903, Nov. 7. CROSS, HENRY EUSTACE.  
 1903, Nov. 21. CROSSLEY, JOHN THOMAS.  
 1903, Oct. 24. CROTHALL, CUTHBERT JAMES.  
 1903, Nov. 21. DALE, FRANCIS A.  
 1903, Dec. 12. DASHPER, LESLIE GRAHAM.  
 1903, Oct. 24. DAVEY, ROY SINCLAIR.  
 1903, Oct. 24. DAVIES, HENRY JENKINS.  
 1903, Nov. 7. DICKSON, JOHN.  
 1903, Dec. 12. *L* DIXON, ETHEL.  
 1903, Nov. 21. DIXON, SAMUEL BUTLER.  
 1903, Nov. 21. DODD, WALTER ALBERT.  
 1903, Nov. 21. DRAKE, PERCY.  
 1903, Nov. 21. DUNNING, WILLIAM JOHN.  
 1903, Oct. 24. EDMONDS, ARTHUR HUMFREY.  
 1903, Dec. 12. ELTON, CLARENCE BAILEY.  
 1903, Dec. 12. FAIRCHILD, WILLIAM BRYANT.  
 1903, Dec. 12. FILER, WILLIAM HARRY.  
 1903, Nov. 21. FIRTH, ARTHUR WILLIAM.  
 1903, Oct. 24. FORD, FREDERICK WILLIAM.  
 1903, Nov. 21. FOSTER, GEORGE WILLIAM.  
 1903, Oct. 3. FOWLER, JOSEPH WILLIAM.  
 1903, Dec. 12. *L* FRASER, GRACE LYALL.  
 1903, Nov. 21. FROST, EDMUND.  
 1903, Nov. 21. FROST, WILLIAM THOMAS.  
 1903, Oct. 24. GARTSIDE, HERBERT WILLIAM.  
 1903, Nov. 7. GAY, JAMES.  
 1903, Nov. 21. *L* GIBSON, ANNIE.  
 1903, Oct. 24. GODDARD, ELIJAH HENRY.  
 1903, Oct. 24. GOODYER, CECIL BRAHAM.  
 1903, Nov. 21. GRASSICK, GEORGE GEDES.  
 1903, Nov. 21. GREENWOOD, CHARLES.  
 1903, Nov. 21. GRINDROD, SQUIRE.  
 1903, Nov. 7. HAGYARD, ROBERT.  
 1903, Nov. 21. *L* HAILWOOD, CAROLINE ANNE.

1903, Oct. 24. HALLETT, FREDERICK GEORGE.  
 1903, Dec. 12. HARDY, ROBERT HENRY.  
 1903, Nov. 21. HARGREAVES, FRED.  
 1903, Dec. 12. HARRIS, ALFRED.  
 1903, Dec. 12. *L* HARRIS, ANNIE KATE.  
 1903, Oct. 24. HARRISON, ARTHUR MARTIN.  
 1903, Nov. 21. HARRISON, ARTHUR WILLIAM.  
 1903, Nov. 7. HARRISON, JOHN EDWARD.  
 1903, Nov. 21. HARTLEY, NICHOLAS.  
 1903, Dec. 12. HARVELL, FRANCIS EDWARD.  
 1903, Oct. 24. HARVEY, ALFRED ERNEST.  
 1903, Dec. 12. HARVEY, JOHN STUART.  
 1903, Nov. 21. HAZLEHURST, WILLIAM.  
 1903, Nov. 7. *L* HESSE, JESSIE ALICE.  
 1903, Nov. 21. *L* HEYWOOD, ADA FANNY.  
 1903, Dec. 12. HILHAM, GEORGE HENRY.  
 1903, Oct. 24. HILLIER, HENRY HURDIS.  
 1903, Dec. 12. HILLS, WALTER VAUGHAN.  
 1903, Dec. 12. HOBBS, ALFRED WILLIAM.  
 1903, Oct. 24. HOLLAND, JOSEPH.  
 1903, Nov. 21. HOLMES, GEORGE JOHN.  
 1903, Dec. 12. HUGHES, ELIAS LEWIS.  
 1903, Oct. 24. *L* IMLACH, GERTRUDE BRODIE.  
 1903, Nov. 7. *L* INNES, ISABELLA MURRAY.  
 1903, Dec. 12. ISAACS, GEORGE OWEN.  
 1903, Nov. 21. JACKSON, GEORGE.  
 1903, Dec. 12. JAGO, BERTIE.  
 1903, Nov. 21. JEPSON, LIVINGSTONE.  
 1903, Dec. 12. JOHNSON, FREDERICK JAMES.  
 1903, Nov. 7. JOHNSTONE, FRANK.  
 1903, Nov. 21. JOHNSTONE, MOSES.  
 1903, Dec. 12. JONES, GEORGE.  
 1903, Oct. 3. JONES, JOHN EVAN.  
 1903, Dec. 12. *L* JONES, NELLIE FLORENCE.  
 1903, Dec. 12. JONES, RHYS.  
 1903, Nov. 21. *L* KAY, ELLEN.  
 1903, Dec. 12. LAYLAND, ROBERT JASPER WILLIAM.  
 1903, Nov. 21. LEES, ALFRED.  
 1903, Nov. 21. LEWIS, RICHARD HENRY.  
 1903, Nov. 21. LOMAX, EDWARD.  
 1903, Nov. 21. LOWCOCK, ALBERT.  
 1903, Dec. 12. LUKE, FREDERICK LLEWELLYN.  
 1903, Nov. 21. MARSDEN, GEORGE WILLIAM.  
 1903, Dec. 12. MARTIN, CECIL JAMES.  
 1903, Nov. 21. MASKERY, WILLIAM.  
 1903, Dec. 12. MATHEWS, RALPH EDWARD.  
 1903, Nov. 21. *L* MCGIFFORD, ELIZABETH.  
 1903, Nov. 7. MCGILLIVRAY, DONALD GRANT.  
 1903, Oct. 24. MILLINGTON, JOHN THOMAS.

1903, Nov. 21. MILNES, ROBERT BENJAMIN.  
 1903, Dec. 12. MOFFATT, WILLIAM HAROLD.  
 1903, Nov. 7. MONAGHAN JAMES.  
 1903, Oct. 24. *L* MONTGOMERY, RACHAEL.  
 1903, Dec. 12. *L* MORRISON, CATHERINE ALICE.  
 1903, Nov. 21. OVEREND, JOHN WILLIAM.  
 1903, Dec. 12. OWEN DAVID JOHN  
 1903, Dec. 12. OXFORD, HARRY ARTHUR.  
 1903, Nov. 7. PAIGE, FREDERICK THOMAS CHARLES.  
 1903, Nov. 7. PARLETT, AUGUSTUS STAFFORD.  
 1903, Dec. 12. PAYNE, CHARLES FREDERICK.  
 1903, Dec. 12. PITSTOW ALFRED ERNEST.  
 1903, Oct. 24. PLACKETT ALFRED THOMAS.  
 1903, Dec. 12. PLUMB, ALBERT HERBERT.  
 1903, Nov. 21. PLUMBLEY, HENRY.  
 1903, Nov. 21. POLLARD, JAMES HERBERT.  
 1903, Nov. 21. *L* RAMM, ELIZABETH ANDREA.  
 1903, Dec. 12. *L* RANDELL, ETHEL ADAMS.  
 1903, Nov. 21. *L* RANGE, ETHEL.  
 1903, Nov. 21. RAWLING, LEONARD.  
 1903, Oct. 24. READ, HERBERT.  
 1903, Nov. 21. REED, WILLIAM.  
 1903, Oct. 3. REID, GEORGE.  
 1903, Dec. 12. *L* REINHERZ, ELLA.  
 1903, Dec. 12. *L* RENAUD, ELIA.  
 1903, Nov. 21. RENSHAW, THOMAS.  
 1903, Oct. 24. RICE, RAYMOND CHARLES SMITH.  
 1903, Dec. 12. RICHARDSON, HARRY.  
 1903, Dec. 12. ROBINSON, HAROLD VICTOR.  
 1903, Nov. 21. *L* ROTHWELL, MAUD EVANGELINE.  
 1903, Oct. 3. ROWLEY, GEORGE WILLIAM.  
 1903, Nov. 21. RUSBY, SAMUEL STEPHENSON.  
 1903, Oct. 3. RUSHFORTH, THOMAS.  
 1903, Nov. 21. SAXTON, GEORGE ARTHUR.  
 1903, Oct. 24. SHARMAN, ROBERT TOMLINSON.  
 1903, Nov. 21. SHARPLES, JOHN.  
 1903, Nov. 21. SHAW, HARRY (Leeds).  
 1903, Nov. 21. SHAW, HARRY.  
 1903, Dec. 12. SHELLEY, GEORGE WALTON.  
 1903, Dec. 12. SIMPSON, GEORGE CHARLES.  
 1903, Dec. 12. SMITH ANDREW.  
 1903, Nov. 21. SMITH, HERBERT VAUGHAN.  
 1903, Dec. 12. SMITH, JOHN PERCY.  
 1903, Nov. 21. *L* SPENCER, BERTHA.  
 1903, Dec. 12. SPRINGETT, FREDERICK WILLIAM.  
 1903, Dec. 12. *L* STAPYLTON, MABEL.  
 1903, Nov. 21. *L* STENTON, HANNAH.  
 1903, Dec. 12. STEWART, BARTY YOUNGHUSBAND.  
 1903, Oct. 3. STIRERAT, ALEXANDER HOUSTON.

1903, Nov. 21. TAYLOR, JOHN ROBERT.  
1903, Nov. 21. TAYLOR, THOMAS JAMES RALPH.  
1903, Nov. 21. TENNENT, ROBERT.  
1903, Dec. 12. THOMAS, ARTHUR.  
1903, Oct. 24. THOMAS, WILLIAM.  
1903, Nov. 21. L THOMPSON, ALICE MAUD.  
1903, Nov. 7. THOMPSON, EDWARD.  
1903, Dec. 12. L THOMPSON, EMILY MARIA.  
1903, Nov. 7. THOMSON, ROBERT STEPHEN.  
1903, Dec. 12. L TRIMNELL, HENRIETTA LOUISA.  
1903, Nov. 21. TRICKETT, ARNOLD BEAUMONT.  
1903, Dec. 12. TURNER, PERCY EDWARD JOHN.  
1903, Oct. 24. TURNER, WILLIAM.  
1903, Nov. 7. L VALENTINE, MAGDALENE FORBES.  
1903, Dec. 12. VAWSER, CHARLES.  
1903, Oct. 24. L WAINEWRIGHT, HILDA.  
1903, Nov. 21. WAISTELL, GEORGE WILLIAM.  
1903, Nov. 21. L WALKER, PHEBE MARGARET.  
1903, Nov. 21. WALKER, WALTER.  
1903, Oct. 24. WALKER, WILLIAM, WAYTE.  
1903, Nov. 21. WARBURTON, WILLIAM EDWIN.  
1903, Nov. 7. WARDLE, THOMAS.  
1903, Dec. 12. WARE, ARTHUR LEE.  
1903, Oct. 24. WAREING, CHARLES ARTHUR.  
1903, Dec. 12. L WATKIN, GERTRUDE EMILY.  
1903, Nov. 21. WATKINS, WILFRID.  
1903, Nov. 21. WEBB, BENJAMIN.  
1903, Oct. 3. WHALE, HENRY.  
1903, Dec. 12. WHALLEY, FRED.  
1903, Dec. 12. WHEELER, LEONARD CHARLES.  
1903, Nov. 21. L WHIPP, LILLIE.  
1903, Oct. 3. WHITEHOUSE, THOMAS.  
1903, Nov. 21. L WIGHTMAN, BELLE.  
1903, Dec. 12. WILCOX, DOUGLAS JOHN.  
1903, Dec. 12. WILKINSON, HARRY HERBERT.  
1903, Nov. 7. WILSON, FREDERICK.  
1903, Dec. 12. WITHERS, EDWIN ERNEST.  
1903, Dec. 12. WITTS, JOHN.  
1903, Dec. 12. WOOD, DAVID PIMM.  
1903, Dec. 1. WRIGHT, PETER,  
1903, Oct. 24. YOUNG, THOMAS HOWARD.

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*Examination Questions.*

*Practical Sanitary Science.*—Newcastle-upon-Tyne, Nov. 6th and 7th, 1903.

1. Make a sectional sketch of a hydraulic ram for raising water. If the air vessel on the delivery pipe is 8 inches diameter, and the delivery pipe  $1\frac{1}{2}$  inches diameter rises to the height of 36 feet, what will be the statical pressure per square inch in the air vessel when the delivery pipe is full of water, and how much is it likely to be increased during work?
2. Describe two unhealthy subsoils. Explain why they are undesirable as sites for dwellings, and how they may be improved.
3. State the various methods of heating a building other than by open fires, and which system you prefer for a large house and which for an elementary school, and why?
4. A river is slightly polluted by the discharge of sewage into it from a village. Describe the self-purifying action which takes place in the river during its flow after contamination.
5. Describe the various forms of fire-resisting construction. Illustrate by sketches.
6. Draw a cross section of the walls, foundations and floors of a house to be built on a damp subsoil, and state what means you would adopt to render it dry and healthy.
7. In laying out a system of sewers, what are the chief points to consider as to lines, inclinations, depths, and sizes of same? Where should manholes and ventilators be placed, and why?
8. Describe how you would dispose of the sewage, rainfall, and house refuse from a mansion in the country, with ten acres of land thereto.

*The Candidates were examined vivâ voce on the 7th.*

*Practical Sanitary Science.*—Manchester, Nov. 20th and 21st, 1903.

1. Name the modes of producing heat. Name three metals in the order of their capacity for the transmission of heat. Name three non-conductors of heat used in building construction in the order of their efficiency as non-conductors.
2. A circular hole 1 inch in diameter is made in the side of a thin tank at a depth of 4 feet from the surface of the water, what will be the velocity of the discharge and the gallons discharged per minute if the water is kept at a constant level?
3. Explain fully how the sanitary condition of a dwelling is affected by aspect and position in relation to the sea level and distance from the sea.
4. What are the chief characteristics of moorland water? What is the principle involved in softening hard water by (a) boiling, (b) adding limewater?
5. What are the advantages and disadvantages of cement concrete



as a material for the walls and floors of dwelling-houses? Specify the composition and mode of using that you would recommend.

6. Describe at least three methods of artificial lighting, and state their advantages and disadvantages.

7. What defects would you specially look for in examining the drainage of a house carried out about 30 years ago? Give particulars of any tests you would apply.

8. Describe two methods of treating sewage. Give sketches of the one you prefer.

*The Candidates were examined vivâ voce on the 21st.*

*Practical Sanitary Science.*—London, December 11th and 12th, 1903.

1. What is meant by humidity of the atmosphere, and how is it measured? State the figures for an average condition.

2. Explain the construction of a standard mercurial barometer, the method of reading it, and how corrections of the readings are made. If a barometer, on being taken 900ft. up a hill, falls from 31in. to 30in., show by calculation how much higher it must be taken to fall to 29in., the temperature being uniform throughout the observations.

3. Explain how aspect affects a building—state the best aspect for larders, bedrooms, and sitting-rooms, respectively.

4. Describe the various kinds of filters for domestic use, and state their merits and defects.

5. Sketch and describe in detail the construction of a hollow wall (showing the “bond”), with damp-proof course, provision for ventilating air space, and concrete foundation, for a large building to be constructed on a damp soil.

6. Make a sketch showing position of inlet and outlet ventilators in a classroom 24ft. by 20ft. by 12ft. high. Give your reasons for adopting the system you have sketched.

7. A 12in. circular pipe sewer has a gradient of 1 in 500; state the formula for calculating the volume of the discharge with varying depths of flow.

8. In order to effect the complete cremation of town refuse in a destructor, state the necessary conditions with regard to temperature, and air supply to the furnace.

*The Candidates were examined vivâ voce on the 12th.*

*Inspectors of Meat and other Foods.*—Bristol, Oct. 16th and 17th, 1903.

1. Name the diseases that occur in animals used for food, and state briefly how they may be recognized while the animal is alive.

2. Trace the gullet or œsophagus from the pharynx to the stomach, and name some of the chief structures it passes by or through in its course.

3. What is a “sweetbread”? What glands may be substituted for it and how would you recognize them?

4. How would you proceed to examine *Salted Meat*? What are the chief points to which you would direct your attention?

5. What are the adulterations usually met with in (a) pepper, (b) cocoa, (c) arrowroot, (d) coffee, (e) butter? How would you proceed in the event of your suspecting adulteration of these articles of food?

6. What is the composition of lime-juice, and what is the standard usually adopted in the mercantile marine?

7. What is the alcoholic strength of beer and porter? How are these fermented drinks prepared, and what are the usual adulterations (if any)?

8. Compare the relative values of fresh and condensed milk. How is the latter prepared, and how would you proceed to examine a sample submitted to you to report upon?

9. Describe what you consider the best methods of slaughtering oxen, sheep, and pigs, and give your reasons.

10. What general regulations should be observed in the conduct of a slaughterhouse?

*The Candidates were examined vivâ voce on the 17th.*

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*Inspectors of Meat and Other Foods.*—London, December 18th and 19th, 1903.

1. What is the naked-eye appearance of a healthy lymphatic gland on section, and what appearances may be observed in diseased conditions? Indicate the positions of those lymphatic glands which you would examine in order to determine the condition of the carcass.

2. What are the chief diseases met with or likely to occur in either home-bred or imported animals, which may be regarded as more or less rendering their flesh unfit for human food?

3. The parasite *cysticercus bovis* is present occasionally in oxen. Of what does it consist? What is the naked-eye appearance of flesh so affected, and what disease does this *cysticercus* give rise to in man?

4. Mention the common parasites in the lungs of calves, sheep, and pigs. Describe the conditions they produce in the live animal and the effects on the food value of the carcass.

5. How can meat which has been refrigerated be distinguished from home-killed meat? Describe fully what changes take place in meat as the result of refrigeration.

6. How would you judge of the fitness for human food of the following articles, viz., butcher's meat, eggs, fish of different kinds, sausage, cheese, and tinned meat? What are the signs of unfitness for human food in these articles?

7. What are the common adulterations of cow's milk? State precisely under what conditions milk should be collected, stored, and distributed so as to reach the consumer as pure and clean as possible. What is the best method of cleaning milk cans and other vessels used in the transit of milk?

8. Describe the process of "pickling" meat. What are the chief

objections to all methods used for preserving meat, and what is the cause of the ill effects which sometimes follow the consumption of tinned meats?

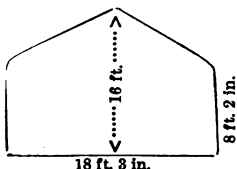
9. Name the foods known to have given rise to ptomaine poisoning in the consumer; mention the circumstances causing or favouring the production of ptomaines in food.

10. State the principal provisions of the model regulations of the Local Government Board relating to dairies, cowsheds, and milkshops.

*The Candidates were examined vivâ voce on the 19th.*

*Inspectors of Nuisances.*—Cape Town, October 2nd and 3rd, 1903.

1. What is the cubic capacity of a room 30 ft. 4 in. long, 18 ft. 3 in. wide, with walls 8 ft. 2 in. high above the floor? The ceiling slopes from the top of the wall to the ridge which is 16 ft. above the floor, as shown in the adjoining sketch. The end walls will be gables. State how many persons should be allowed to use this room (a) if a dormitory in a common lodging-house; (b) if a day school; (c) if a ward in a hospital.



2. A dwelling-house has to be erected on a very sloping site and one side of the house will have to be sunk so that its ground floor will be six feet below the natural surface of the ground, what should be done to prevent the walls of the house becoming damp (a) if the site be rock; (b) if the site be of clay; (c) if the site be of sand?

3. Describe, with sketches, the method of making a connection between (a) two stoneware pipes; (b) an iron and a stoneware pipe; (c) an iron and a lead pipe; (d) two lengths of lead piping.

4. Upon receipt of a report that a stoppage exists in connection with a modern system of house drainage, what action would you take in relation thereto?

5. If several cases of enteric fever occurred in a district in which the means of removal of excreta was by the pail-closet system, state clearly what measures of precaution you would take to prevent the spread of the disease?

6. Describe the various means by which the water supply of a town may be polluted after it has left the gathering ground and before consumption?

7. If a nuisance, as defined by the Public Health Act, England, 1875, existed on any premises, describe, in their order, the steps you would take to have the nuisance abated.

8. How would you proceed to disinfect a dwelling after the removal of a case of small-pox therefrom?

*The Candidates were examined vivâ voce on the 3rd.*

*Inspectors of Nuisances.*—Derby, Oct. 23rd and 24th, 1903.

1. Enumerate the offensive trades mentioned in Section 112 of the Public Health Act, 1875. Mention briefly the chief points in the model by-laws issued by the Local Government Board, controlling any one of them.

2. Name the animals, whose flesh is used for human food, that are most subject to the following diseases:—(a) anthrax, (b) glanders, (c) fluke, (d) trichinosis, (e) actinomycosis. Under what circumstances would you condemn (a) the milk and (b) the meat of a cow suffering from tuberculosis.

3. How does the law regulate the manufacture, exposure for sale, and sale of margarine and margarine cheese?

4. Enumerate the chief conditions which favour the spread of enteric fever. What do you consider the best method for the disposal of the excreta of a person suffering from this disease in a private house?

5. What are the impurities in air vitiated by respiration? State their relative importance. Calculate the cubic contents in feet of a room 20 feet square and 9 ft. 6 in. high, with a semi-circular bay window from floor to ceiling, the radius of the semi-circle being 3 ft.

6. State what velocity in the sewage of a 4-inch house drain is desirable, and why less velocities in larger drains will suffice.

7. Give sketches and description of a self-cleansing gully and a flushing gully for waste water. The sketches to show how these gullies should be fitted in position.

8. In what ways may drinking-water in domestic storage cisterns get polluted? Indicate how the different forms of pollution could be best guarded against.

*The Candidates were examined vivâ voce on the 24th.*

*Inspectors of Nuisances.*—Newcastle-upon-Tyne, November 6th and 7th, 1903.

1. What is the legal definition of an underground bakehouse? With what conditions must the occupiers of underground bakehouses comply prior to January 1st, 1904, in order to continue the use of such premises?

2. What particular items would you refer to in drawing up a report on the inspection of a canal boat?

3. What measures would you adopt to prevent the spread of small-pox in a common lodging-house where a case of the disease had occurred? What powers have Sanitary Authorities to enforce these measures?

4. Describe the best method of disinfecting the following articles:—(a) hair mattress, (b) linen sheets, (c) coat, (d) A pair of boots.

5. Discuss the relative advantages of the *constant*, as compared with the *intermittent*, service of water?

6. What do you understand by the terms, "Natural Ventilation"

and "Artificial Ventilation"? Give a sketch of three ventilators, and explain their action.

7. Describe the proper method of constructing drains with stoneware pipes, and state the points to which you would give special attention, with reference both to the quality of material and method of laying. Illustrate your answer by sketches.

8. Describe the usual arrangement for ventilating house drains, and mention any apparatus you may know for inducing ventilation in difficult places.

*The Candidates were examined vivâ voce on the 7th.*

*Inspectors of Nuisances.*—Manchester, Nov. 20th and 21st, 1903.

1. Enumerate the chief provisions of the Dairies', Cowsheds', and Milkshops' Orders relating to (a) the registration of cowkeepers and dairymen, (b) the sanitary condition of premises, (c) the protection of milk from contamination.

2. Where are the duties of an Inspector of Nuisance officially set out? State what Act of Parliament, Statutory Orders, etc., should be provided in the Health Office for reference by the Sanitary Inspector (not text books).

3. Indicate the steps which should be taken to obtain the closure of a well which is known to be polluted, owing to the close proximity of a leaky cesspool.

4. What are the chief differences in the carcase of the horse and the ox? How would you distinguish horse flesh from badly bled beef.

5. Describe the theory of disinfection of textile goods by steam. What form of steam disinfection do you prefer? State your reasons.

6. State what means of ventilation are required to be provided for a habitable room without a fireplace.

7. State what means of access to drains, other than manholes, are often provided, and give sketches and state where they would be used.

8. Write a brief specification for the laying and testing of a stoneware drain with ordinary cemented joints.

*The Candidates were examined vivâ voce on the 21st.*

*Inspectors of Nuisances.*—Montreal, December 1st and 2nd, 1903.

1. Sketch a plan of drainage suitable for a two-storied house,—one in the middle of a terrace; main sewer running down road in front of terrace.

2. What are the important points to bear in mind in dealing with the storage and disposal of ordinary house refuse?

3. Explain in detail the various causes of dampness in a house.

4. What diseases are transmitted to man by food? Indicate briefly the manner in which the infection occurs.
5. How much fresh air is required per hour for ordinary individuals? Calculate the cubic capacity of a room 16 feet long, 14 feet broad, and which has a sloping roof 12 feet high on one side, and six feet on opposite side.
6. Discuss the advantages or disadvantages of an intermittent and a constant water supply, paying special attention to contamination.
7. Give the exact legal procedure to be adopted under Ontario Public Health Act, for the abatement of a nuisance.
8. What powers have sanitary authorities under same Act, to deal with infectious cases?

*The Candidates were examined vivâ voce on the 2nd.*

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*Inspectors of Nuisances.*—London, December 11th and 12th, 1903.

1. The officers of a local authority apply to the occupier of an infected house for bedding and other articles which are infected with scarlet fever. The occupier refuses to hand over the articles for disinfection. What action should be taken to obtain and disinfect the articles in question?
2. What nuisances are likely to occur in bakehouses, slaughter-houses, fish manure works, and brickworks? How would you proceed to inquire into an alleged nuisance from brickworks?
3. Mention the most common diseases which render the flesh of a pig unfit for food. What appearances would lead you to determine their presence in the dressed carcase?
4. Calculate in cubic feet and in gallons the contents of a well 4ft. 6ft. inside diameter and 30ft. deep, the water level being 6ft. from the ground level.
5. What are the advantages and disadvantages (a) iron service pipes (b) lead service pipes in connection with a public water supply; what other forms of service pipes are occasionally recommended and why?
6. Mention the respective advantages and disadvantages of cast-iron and stoneware drain pipes for house-drainage purposes. In what lengths are these pipes usually made? Of what materials and in what manner are the joints of each respectively made?
7. A house drain has to be laid in bad, wet ground, at a depth of, say, 5ft. Show by sketches how the trench should be timbered and the drain laid, with dimensions and description of the work.
8. Draw out a form of register for common lodging houses.

*The Candidates were examined vivâ voce on the 12th.*

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## FORTHCOMING MEETINGS.

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### ORDINARY GENERAL MEETING.

The Ordinary General Meeting of the Institute has been fixed for Wednesday, March 23rd.

At this Meeting the report of the Council on the work of the year 1903 will be presented, and the new Members of Council and Officers elected for the ensuing year.

### SESSIONAL MEETING.

A Sessional Meeting will be held in the Parkes Museum on Wednesday, February 10th, when the discussion on "Road Sanitation" will be opened by J. Patten Barber, M.Inst.C.E., and Louis C. Parkes, M.D., D.P.H.

The March and April Meetings will be held on Saturdays with discussion in the morning and visits in the afternoon.

Provincial Meetings will be held at Manchester on Friday, January 29th, at 7.30 p.m., when a discussion will be opened by Edwin T. Hall, F.R.I.B.A., on "The Ventilation of Dwelling-house Workshops and Schools"; preceded at 6 p.m. by an Inspection of the Municipal School of Technology, conducted by Prof. J. Radcliffe.

Arrangements are being made for a meeting to be held in Cardiff early in April, when the subject for discussion will be "School Hygiene in connection with the Duties and Responsibilities of the new Educational Authorities."

### CONGRESS, 1904.

The Council have accepted an invitation from the Rt. Hon. The Lord Provost and City Council to hold the next Congress and Exhibition of the Institute in Glasgow, commencing July 25th. The Rt. Hon. Lord Blythswood, LL.D., D.L., J.P., has accepted the Presidency of the Meeting.

At a Public Meeting called by the Lord Provost and held on December 15th, the Lord Provost, Sir John Ure Primrose, Bart., was elected Chairman of the Local Committee, and Councillor W. F. Anderson, Vice-Chairman, Mr. James Nicol, Treasurer, and Mr. J. Lindsay, Solicitor and Clerk to the Police Department, Honorary Local Secretary—and the various Committees to carry out the necessary arrangements for the reception of the Congress were appointed.

The following Sections and Conferences will be held in connection with the Congress:—

Section I.—Sanitary Science and Preventive Medicine.

*President*.—Prof. J. Glaister, M.D., D.P.H., F.C.S., F.R.S.E.

Section II.—Engineering and Architecture.

Section III.—Physics, Chemistry, and Biology.

Conferences.—

Municipal Representatives.

*President*.—Councillor W. F. Anderson.

On Industrial Hygiene.

Medical Officers of Health.

*President*.—Sir Charles A. Cameron, C.B., M.D.,  
F.R.C.P., F.R.C.S., F.I.C.

Engineers and Surveyors to County and other Sanitary Authorities.

*President*.—Wm. Weaver, M.Inst.C.E.

Veterinary Inspectors.

*President*.—Prof. James McCall, F.R.C.V.S.

Sanitary Inspectors.

*President*.—T. F. Strutt.

Ladies on Hygiene.

*President*.—Her Grace the Duchess of Montrose.

Hygiene of School Life.

*President*.—Prof. J. Edgar, M.A.

Lecture to Congress.

Sir Richard Douglas Powell, Bart., K.C.V.O., M.D.,  
F.R.C.P.

#### ANNUAL DINNER.

It is proposed to hold the Annual Dinner of the Institute in the early part of May. The President, H.R.H. The Duke of Cambridge, has graciously stated that he hopes to preside on this occasion. Further particulars will be published in the next Journal.

#### LECTURES TO SANITARY OFFICERS.

The Thirty-seventh Course of Lectures and Demonstrations to Sanitary Officers will commence on Tuesday, February 2nd.

The dates and subjects of the thirty-three Lectures and the several outside Demonstrations are set out in the Calendar in the following pages. The Lectures are arranged to include the subjects scheduled for the Examination for Inspector of Nuisances held by the Institute.

Students who attend the Lectures and at least 75 per cent. of the Inspections and Demonstrations will be accepted as having the necessary practical training required by the regulations for candidates entering for the Examination of the Institute as Inspectors of Nuisances.



### PRACTICAL TRAINING FOR MEAT INSPECTORS.

The Fifth Course will commence on Friday, February 26th, at 7.30 p.m., and will consist of systematic Practical Training in the inspection of meat at a Cattle Market, including Demonstration on live cattle and sheep, slaughtering and dressing of animals, names and situations of the organs, diseases of animals, methods of stalling, arrangements of markets and byres, etc.

Demonstration will also be arranged at a knackers' yard, where instructions regarding the flesh and organs of the horse will be given.

The Course will continue for two months.

Demonstrations will be given at the Institute on Friday evenings and at a Market on Saturday afternoons.

In addition to the practical training at a Market the Course will include Lectures given in the Parkes Museum.

The Course is arranged for candidates preparing for the Examination for Inspectors of Meat and other Foods, conducted by the Institute.

### APPLIED HYGIENE FOR SCHOOL TEACHERS.

The Third Course will consist of twenty-one Lectures, given on Saturday mornings throughout the three terms of the year 1904, and will be held partly at Bedford College for Women and partly at The Sanitary Institute.

The course affords a preparation which The Sanitary Institute regards as suitable for the examination held by them for their Certificate in Practical Hygiene for School Teachers.

The course is open to women students over 19 years of age who hold either a Teacher's Diploma or Certificate, or have had at least two years' experience in teaching in a secondary school, or who can produce satisfactory evidence that they will be able to benefit by the instruction afforded them.

Members and Associates of the Institute are admitted to this course at half fees.

### EXAMINATIONS.

The following Examinations have been arranged during January, February, and March:—

*For Inspectors of Nuisances under the Public Health Act, 1875.*—

Plymouth, February 12th, 13th; Edinburgh, March 4th, 5th; Liverpool, March 18th, 19th.

*Practical Sanitary Science.*—Plymouth, February 12th, 13th; Edinburgh, March 4th, 5th; Liverpool, March 18th, 19th.

*Practical Hygiene for School Teachers.*—Lewes, January 8th, 9th; London, February 5th, 6th; Edinburgh, March 4th, 5th.

*Inspectors of Meat and other Foods.*—Leeds, March 11th, 12th.

## CALENDAR, JANUARY TO APRIL, 1904.

*As far as at present arranged.*

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m.

Exhibition Committee . . .	} Monday in the week preceding the Council, at 4.30 p.m. & 5.30 p.m.
Congress and Editing Committee . . .	
Examination Committee . . .	} Tuesday in the week preceding the Council, at 4 p.m. and 5 p.m.
Museum and Library Committee . . .	
Special Purposes Committee . . .	} Wednesday in the week preceding the Council, at 4 p.m. and 5 p.m.
Finance Committee . . .	
Parliamentary Committee . . .	} As occasion requires.
New Premises Committee . . .	
Disinfectant Standardisation Committee . . .	
Committee . . .	

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 1 p.m. on Saturday.

*Council and Committee Meetings are suspended during August and Sept., and the Museum and Library are closed on public holidays.*

## JANUARY.

- 8 F. } Examination in Practical Hygiene for School Teachers, Lewes.  
9 S. }
- 23 S. Lecture at Philosophical Hall, Leeds, at 3 p.m. The Bacteriology of Diseased Meat and Unsound Food. Illustrated by lantern slides and specimens. By P. J. Cammidge, M.B. (Lond.), D.P.H. (Camb.), Bacteriologist in the County Health Department, Wakefield.
- 29 F. **Provisional Sessional Meeting, Manchester, 7.30 p.m.**
- 30 S. Lecture at Philosophical Hall, Leeds, at 3 p.m. Practical Meat Inspection. Illustrated by fresh specimens of sound and unsound food. By J. McPhail, M.B.C.V.S., Chief Veterinary Inspector, Hull.

## FEBRUARY.

- 2 T. Lecture to Sanitary Officers at 7 p.m. Elementary Physics, by E. J. Steegmann, M.B., D.P.H., Medical Officer of Health, Heston, Isleworth.
- 3 W. Lecture to Sanitary Officers at 7 p.m. Elementary Physics, by E. J. Steegmann, M.B., D.P.H.
- 5 F. Lecture to Sanitary Officers at 7 p.m. Elementary Chemistry, by E. J. Steegman, M.B., D.P.H.
- 5 F. } Examination in Practical Hygiene for School Teachers, London.  
6 S. }
- 6 S. Inspection and Demonstration at Charing Cross Hospital New Buildings, at 2.15 p.m., conducted by Alfred Saxon Snell, F.R.I.B.A.
- 6 S. Lecture at Philosophical Hall, Leeds, at 3 p.m. The Procedure for seizure of Meat, and the enforcement of the Laws, By-laws, and Regulations affecting the preparation and sale of Food, by J. Spottiswoode Cameron, M.D., B.Sc., Medical Officer of Health, Leeds.
- 8 M. Lecture to Sanitary Officers, at 7 p.m. Elementary Chemistry, by E. J. Steegmann, M.B., D.P.H.

- 10 W. **Sessional Meeting, London, 7.30 p.m.** Discussion on "Road Sanitation."
- 10 W. **Inspection and Demonstration in the District of Islington, at 2 p.m.** (number limited). Conducted by James R. Leggatt, Supt. Public Health Dept., Borough of Islington.
- 11 T. **Lecture to Sanitary Officers at 7 p.m. Sanitary Law, A:** Introductory Remarks, Public Health Acts—English, Scotch, Irish; other Statutes relating to Public Health; By-Laws (Model, &c.), Regulations, Orders, Memoranda, etc, by E. J. Steegmann, M.B., D.P.H.
- 12 F. **Lecture to Sanitary Officers at 7 p.m. Sanitary Law, B:** Public Health London Act; Metropolis Local Management Acts; By-Laws and Regulations in Force in the Administrative County of London, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.
- 12 F. } **Examination in Practical Sanitary Science and for Inspectors of**
- 13 S. } **Nuisances, Plymouth.**
- 13 S. **Inspection and Demonstration at the Battersea Municipal Milk Depot and Disinfecting Station, at 2.15 p.m.** Conducted by G. F. McCleary, M.D., D.P.H., M.O.H., Battersea.
- 13 S. **Lecture at Philosophical Hall, Leeds, at 3 p.m. Practical Methods of Stalling and Slaughtering Animals, and preserving and storing Meat and other Foods, by W. Hunting, F.R.C.V.S., Veterinary Inspector, London.**
- 15 M. **Lecture to Sanitary Officers at 7 p.m. Sanitary Law, C:** Factory and Workshop Acts (including Bakehouse Legislation, 1878-95, as they effect the Sanitary Inspector; Smoke Legislation, Food and Drugs Act, 1899, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H., Medical Officer of Health, Lambeth.
- 16 T. **Lecture to Sanitary Officers at 7 p.m. Meteorology, by E. J. Steegmann, M.B., D.P.H.**
- 17 W. **Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—General, A:** Outdoor, by Reginald Dudfield, M.D., D.P.H., Medical Officer of Health, Paddington.
- 19 F. **Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—General, B:** Indoor, by Reginald Dudfield, M.D., D.P.H., Medical Officer of Health, Paddington.
- 20 S. **Inspection and Demonstration at a house in Stoke Newington, at 3 p.m.** Conducted by W. Matthews, Chief Sanitary Inspector.
- 20 S. **Lecture at Philosophical Hall, Leeds, at 3 p.m. The Hygiene of Places where Animals are kept, or where Food is stored, prepared, or exposed for Sale, by W. L. Hunter, M.D., D.P.H., Medical Officer of Health, Pudsey.**
- 22 M. **Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—C:** Offensive Trades and Trade Nuisances, &c., by Reginald Dudfield, M.D., D.P.H.
- 23 T. **Demonstration of Book-keeping as carried out in a Sanitary Inspector's Office, at the Public Health Office, Town Hall, Upper Street, Islington. N., at 7 p.m., by James R. Leggatt, Supt. Public Health Dept., Borough of Islington.**
- 24 W. **Inspection and Demonstration in the District of Islington, at 2 p.m.** (number limited). Conducted by James R. Leggatt, Supt. Public Health Dept., Borough of Islington.
- 24 W. **Lecture to Sanitary Officers at 7 p.m. Infectious Diseases, by A. Wellesley Harris, M.R.C.S., D.P.H., Medical Officer of Health, Lewisham.**
- 26 F. **Lecture to Sanitary Officers at 7 p.m. Methods of Disinfection, by A. Wellesley Harris, M.R.C.S., D.P.H.**

- 26 F. Opening Lecture. Meat Inspectors' Course, 7.30 p.m., in the Library of the Institute.
- 27 S. Inspection and Demonstration at Tottenham Disinfecting Station and Dust Destructor, at 3 p.m. Conducted by J. F. Butler Hogan, B.A., M.D., Medical Officer of Health.
- 27 S. Lecture at Philosophical Hall, Leeds, at 3 p.m. Demonstration of Unsound Food; dealing specially with (1) lymphatic glands, (2) common parasites, by James King, M.R.C.V.S., Metropolitan Cattle Markets, London.
- 29 M. Lecture to Sanitary Officers at 7 p.m. Elementary Statistics, by A. Wellesley Harris, M.R.C.S., D.P.H., Medical Officer of Health, Lewisham.

## MARCH.

- 2 W. Lecture to Sanitary Officers at 7 p.m. Water Composition: Pollution and Purification, by A. Wellesley Harris, M.R.C.S., D.P.H.
- 2 W. Inspection and Demonstration at L.C.C. Common Lodging House, Parker Street, Drury Lane, W.C., at 3 p.m.
- 4 F. Lecture to Sanitary Officers at 7 p.m. Calculations, Measurements, and Plans and Sections, by W. C. Tyndale, M.INST.C.E.
- 4 F. ) Examination in Practical Sanitary Science, Inspectors of Nuisances,  
5 S. ) and Practical Hygiene for School Teachers, Edinburgh.
- 5 S. Inspection and Demonstration at the Sewage Works, Sutton, Surrey, at 3 p.m. Conducted by C. Chambers Smith, Town Surveyor.
- 7 M. Lecture to Sanitary Officers at 7 p.m. Building Materials, by Prof. R. Elsey Smith, A.R.I.B.A.
- 9 W. Lecture to Sanitary Officers at 7 p.m. Details of Plumbers' Work, by J. Wright Clarke.
- 9 W. Inspection and Demonstration in the District of Hackney (number limited). Arranged by J. King Warry, M.D., Medical Officer of Health.
- 11 F. Lecture to Sanitary Officers at 7 p.m. Sanitary Building Construction and Planning; Soil and Local Physical Conditions, by Prof. R. Elsey Smith, A.R.I.B.A.
- 11 F. ) Examination for Inspectors of Meat and other Foods, Leeds.  
12 S. )
- 12 S. Inspection and Demonstration at the Sewage and Destructor Works, Ealing, at 2.15 p.m. Conducted by Charles Jones, M.INST.C.E., Borough Engineer and Surveyor.
- 14 M. Lecture to Sanitary Officers at 7 p.m. Ventilation, Warming, and Lighting, by Prof. R. Elsey Smith, A.R.I.B.A.
- 16 W. Lecture to Sanitary Officers at 7 p.m. Sanitary Appliances, by W. C. Tyndale, M.INST.C.E.
- 16 W. Inspection and Demonstration at the East London Water Works, Lea Bridge, Clapton, at 3 p.m. Conducted by W. B. Bryan, M.INST.C.E.
- 18 F. Lecture to Sanitary Officers at 7 p.m. House Drainage, by W. C. Tyndale, M.INST.C.E.
- 18 F. ) Examination in Practical Sanitary Science and for Inspectors of  
19 S. ) Nuisances, Liverpool.
- 19 S. Inspection and Demonstration at Morden Hall Dairy Farm, Morden, Surrey, at 3 p.m. Conducted by Oscar J. White.
- 21 M. Lecture to Sanitary Officers at 7 p.m. Water Supply, Sources of Supply and Distribution, by J. E. Worth, M.INST.C.E., District Engineer, L.C.C.

- 23 W. Sewerage, by J. E. Worth, M.INST.C.E., District Engineer, L.C.C.
- 23 W. Inspection and Demonstration in the District of Hackney (number limited). Arranged by J. King Warry, M.D., Medical Officer of Health.
- 23 W. **Ordinary General Meeting.**
- 25 F. Lecture to Sanitary Officers at 7 p.m. Sewage Disposal, by J. E. Worth, M.INST.C.E., District Engineer, L.C.C.
- 26 S. Inspection and Demonstration at the Sewage Outfall Works, Barking, at about 3 p.m. Conducted by J. E. Worth, M.INST.C.E., District Engineer, L.C.C.
- 28 M. Lecture to Sanitary Officers at 7 p.m. Scavenging: Disposal of House Refuse, by J. E. Worth, M.INST.C.E., District Engineer, L.C.C.
- 30 W. Demonstration at, and Inspection of, a House in Stoke Newington, at 3 p.m. Conducted by W. Matthews, Chief Sanitary Inspector,

## APRIL.

- 1 F. } **Bank Holidays.** Library and Museum Closed.
- 4 M. }
- 11 M. Lecture to Sanitary Officers at 7 p.m. Signs of Health and Disease in Animals destined for food, when alive and after slaughter. Tuberculous and other Tests, by W. Hunting, F.R.C.V.S.
- 13 W. Inspection and Demonstration at the East London Soap Works, Bow, at 3 p.m. (Messrs. E. Cook & Co., Ltd.)
- 13 W. Lecture to Sanitary Officers at 7 p.m. The Names and Situations of the Organs of the Body in Animals, by
- 15 F. Lecture to Sanitary Officers at 7 p.m. Diseased Meat, with a Demonstration of Morbid Specimens collected from Meat Markets, by James King, M.R.C.V.S., Veterinary Inspector, Metropolitan Cattle Market.
- 15 F. } Examination in Practical Sanitary Science and for Inspectors of
- 16 S. } Nuisances, Birmingham.
- 18 M. Lecture to Sanitary Officers at 7 p.m. Practical Methods of Stalling and Slaughtering Animals, by W. Hunting, F.R.C.V.S.
- 20 W. Inspection and Demonstration at Harrison and Barber's Knacker Yard, Winthrop Street, Whitechapel, E., at 3 p.m. Conducted by H. King Shaw.
- 20 W. Lecture to Sanitary Officers at 7 p.m. The appearance and Character of Fresh Meat, Organs, Fat, Blood, Fish, Poultry, Milk, Fruit, Vegetables, and other food, and the conditions rendering them, or preparations of them, fit or unfit for human consumption. Preserving and Storing Meat and other Foods, by E. Petronell Manby, B.A., M.D. D.P.H., Medical Inspector, L.G.B.
- 22 F. Lecture to Sanitary Officers at 7 p.m. The Hygiene of Byres, Lairs, Cow Sheds and Slaughter Houses, and all places where animals destined for the supply of food are kept, and the Hygiene of Markets, Dairies, and other places where food is stored, prepared, or exposed for sale, and transported, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector, L.G.B.
- 25 M. Lectures to Sanitary Officers at 7 p.m. The Laws, By-Laws, and Regulations affecting the Inspection and Sale of Meat and other articles of Food, including their preparation and adulteration, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector, L.G.B.
- 27 W. Inspection and Demonstration at the Metropolitan Cattle Market, York Road, N., at 2 p.m. Conducted by James King, M.R.C.V.S., Veterinary Inspector, Metropolitan Cattle Market.

## FELLOW, MEMBERS, AND ASSOCIATES

ELECTED OCTOBER—DECEMBER, 1903.

Reg.  
No.      Date of  
         Election.

## FELLOW.

1903. Nov.      DAVIES, Lieut.-Col. Arthur Mercer, R.A.M.C., D.P.H.,  
64, *West Park, Eltham, Kent.*

## MEMBERS.

\* Passed Examination in Practical Sanitary Science.

- 1749 1903. Dec.      ALDWINCKLE, Thomas Wilson, A.R.I.B.A., 20, *Den-  
man Street, London Bridge, S.E.*
- 1741 1903. Nov.      BATCHELOR, George Arthur, M.D., M.R.C.S., D.P.H.,  
*St. Leonard's Villa, 3, Anchor Bay, Cape Town,  
S. Africa.*
- 1742 1903. Nov.      BEST, Harold Storr, 7, *Church Road, Beckenham,  
Kent.*
- 1750 1903. Dec.      BIRKS, Edmund, *Uxbridge, Middlesex. (Architect  
and Surveyor.)*
- 1743 1903. Nov.      BURCHARDT, Ernest A., *Brashfield, Bicester, Ox-  
fordshire. (Chairman, Rural District Council.)*
- 1744 1903. Nov.      BURTON, Amos, A.M.INST.C.E., *Borough Engineer,  
Stoke-on-Trent, Staffs.*
- 1745 1903. Nov.      DELANY, Joseph F., *Municipal Buildings, Dublin.*
- 1751 1903. Dec.      HALL, Octavius, D.P.H., L.R.C.P., L.R.C.S., *Stoke,  
Devonport, Devon.*
- 1754 1903. Dec.      \*HETHERINGTON, Thomas Braithwaite, 5, *Compton  
Street, Carlisle.*
- 1740 1903. Nov.      JAMES, Charles Carkeet, M.INST.C.E., *Special Drain-  
age Engineer, Bombay Corporation, India.*
- 1747 1903. Nov.      MARRIAN, Harold Greenwood, *City Surveyor's Office,  
Town Hall, Manchester.*
- 1755 1903. Dec.      \*QUIRK, John Joseph, 2, *Landseer Terrace, Bramley,  
Yorks.*
- 1752 1903. Dec.      BENNIE, Robert, D.P.H., M.B., CH.B., *New Washing-  
ton, Durham.*
- 1748 1903. Nov.      WAGSTAFF, William Harvey, 57, *Salter Gate, Chester-  
field.*
- 1753 1903. Dec.      WATSON, George, A.M.INST.C.E., 21, *Springfield  
Mount, Leeds.*

## ASSOCIATES.

‡ Passed Examination for Inspectors of Nuisances.

- 3039 1903. Dec.      ‡ALLEN, Frank, *c/o The Sanitary Board, Hong  
Kong.*

Reg. No.	Date of Election.	
3031	1903. Dec.	†ALLSOPP, Herbert, 22, <i>Cromwell Street, Mansfield, Nottingham.</i>
3032	1903. Dec.	†ASHWORTH, George William, 18, <i>Bank Top, Wibsey, Bradford, Yorks.</i>
3010	1903. Dec.	†BELL, Walter, <i>Mill Lane, Stockton-on-Tees, Durham.</i>
3053	1903. Dec.	†BILLINGTON, Samuel, 30, <i>Portland Road, Nottingham.</i>
3011	1903. Dec.	†BLACKETT, Edwin Robson, 38, <i>Easson Road, Darlington.</i>
3054	1903. Dec.	†BOOTH, Albert Edward, 162, <i>Upper Brook Street, C.-on-M., Manchester.</i>
3055	1903. Dec.	†BROWN, Walter, 26, <i>Clarence Road, Sparkhill, Birmingham.</i>
3012	1903. Dec.	†BUDDS, William James, 143, <i>Second Avenue, Trafford Park, Manchester.</i>
3056	1903. Dec.	†BULLOCK, Arthur, 132, <i>Arncliffe Terrace, Bradford.</i>
3013	1903. Dec.	†BURTON, William, 69, <i>Queen Street, Amble, Northumberland.</i>
3023	1903. Nov.	BYRNE, Catherine Widdington, 33, <i>Lancaster Gate, S.W.</i>
3057	1903. Dec.	†CHUTER, Alfred, 126, <i>Taybridge Road, Clapham Common, S.W.</i>
3014	1903. Dec.	†CLARK, Mark Lawrance, 103, <i>Chirton West View, North Shields.</i>
3058	1903. Dec.	†CONNOR, Levi, <i>The Lodge, Rumworth Park, Bolton.</i>
3015	1903. Dec.	†CROSS, Henry Eustace, <i>High Coniscliffe, near Darlington.</i>
3024	1903. Nov.	†CROTHALL, Cuthbert James, <i>Public Health Department, Johannesburg.</i>
3059	1903. Dec.	†DAVEY, Roy Sinclair, " <i>Everilda</i> ," <i>Avenue Road, Torquay.</i>
3060	1903. Dec.	†DIXON, Samuel Butler, 24, <i>Peter Street, Frizington, Cumberland.</i>
3061	1903. Dec.	†EDMONDS, Arthur Humfrey, <i>The Close, Exeter.</i>
3025	1903. Nov.	FITZ GERALD, Marion, <i>Public Health Department, Ford Street, Derby.</i>
3062	1903. Dec.	†GARTSIDE, Herbert William, <i>Audley, Syke, Rochdale.</i>
3063	1903. Dec.	†GOODYER, Cecil Braham, 24, <i>Aked Street, Stockport Road, Manchester.</i>
3064	1903. Dec.	†GLASSICK, George Gedes, 9, <i>Cole Street, Birkenhead, Cheshire.</i>
3065	1903. Dec.	†HALLETT, Frederick George, 8, <i>Albany Road, Wolverhampton.</i>
3016	1903. Dec.	†HARDING, John Howard, 47, <i>Broad Street, Barry, Glam.</i>
3066	1903. Dec.	†HARRISON, Arthur Martin, <i>The Coppice Asylum, Nottingham.</i>
3067	1903. Dec.	†HARRISON, Arthur William, 63, <i>Grove Street, Pye Bank, Sheffield.</i>

Reg. No.	Date of Election.	
3098	1903. Dec.	‡HILLIER, Henry Hurdis, 302, <i>Western Bank, Sheffield.</i>
3099	1903. Dec.	‡HOLDFORTH, Harold, 4, <i>Hemdean Road, Caversham.</i>
3098	1903. Nov.	‡HOLLAND, Joseph, 8, <i>Albert Road, Waterloo, near Liverpool.</i>
3070	1903. Dec.	‡JACKSON, George, 5, <i>Cliff Terrace, Kendal.</i>
3027	1903. Nov.	‡MCCARTNEY, John W., 5, <i>Fort View Terrace, Shore Road, Belfast.</i>
3071	1903. Dec.	‡MILLINGTON, John Thomas, 15, <i>Ashbourne Street, Leicester.</i>
3029	1903. Nov.	ORWIN, Annie, 16, <i>Mount Ephraim, Tunbridge Wells.</i>
3030	1903. Nov.	‡OWEN, John David, 1, <i>Cae Badell Terrace, Carmarthen Road, Swansea.</i>
3017	1903. Dec.	‡PAIGE, Frederick Thomas Charles, 70, <i>Hill Street, Peckham, S.E.</i>
3072	1903. Dec.	‡PEARSON, John Henry, 7, <i>Richborough Villas, St. Peter's Park Road, Broadstairs.</i>
3073	1903. Dec.	‡RAMM, Elizabeth Andrea, 10, <i>Pickering Road, New Brighton, Liverpool.</i>
3074	1903. Dec.	‡REED, William, 35, <i>Esplanade, Scarborough.</i>
3028	1903. Nov.	‡REYNOLDS, Henry L., 8, <i>Rutherglen Street, Belfast.</i>
3031	1903. Nov.	‡RICE, Raymond C. S., 67, <i>Nelson Street, Dereham Road, Norwich.</i>
3044	1903. Dec.	‡RICHARDS, Edward John, <i>Epworth Villa, Alexandra Place, Rhymney, Monmouth.</i>
3032	1903. Nov.	‡SHARMAN, Robert Tomlinson, 45, <i>Beetwell Street, Chesterfield.</i>
3075	1903. Dec.	‡SHAW, Harry, 30, <i>Master Street, Burnley, Lancs.</i>
3033	1903. Nov.	‡SMITH, Frank Hall, 5, <i>West Hill Terrace, Mansfield, Notts.</i>
3034	1903. Nov.	‡SUMNER, Evan, 94, <i>Old Park Avenue, Cliftonville, Belfast.</i>
3035	1903. Nov.	‡SWADDLE, Robert J., <i>Washington, Durham.</i>
3037	1903. Nov.	‡TEARE, Joseph Ernest, 17, <i>Farrant Street, Douglas, Isle of Man.</i>
3019	1903. Dec.	‡THOMPSON, Edward, <i>Softley Cottage, Butterknowle R.S.O.</i>
3036	1903. Nov.	‡UPHAM, Edwin John Henry, 47, <i>Holmesdale Street, Grange Town, Cardiff.</i>
3030	1903. Dec.	‡WAINWRIGHT, Hilda, <i>Iken Rectory, Tunstall R.S.O., Suffolk.</i>
3038	1903. Nov.	‡WAREING, Charles Arthur, 54, <i>Saltley Road, Saltley, Birmingham.</i>



## CONTRIBUTIONS AND ADDITIONS TO LIBRARY

DURING OCTOBER TO DECEMBER, 1903.

*\*\* For publications of Societies and Institutions, &c., see under  
"Academies."*

## ACADEMIES (AMERICAN).

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Thirtieth-sixth Annual Convention, 1902. 149 pp., 8vo. Washing-  
ton, 1903. *The Institute.*

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- London.** *City of London College.* Calendar, 1903-4. 190 pp., 8vo.  
London, 1903. *The Secretary.*
- *Civil and Mechanical Engineers' Society.* Transactions:  
Forty-fourth Session, 1902-1903. 85 pp., 8vo. London, 1903.  
*The Society.*
- *Institution of Civil Engineers.* Minutes of Proceedings, with  
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Part III. 446 pp. (Plates), 8vo. London, 1903.  
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- *Royal College of Surgeons, England.* Calendar, 1903-1904.  
334 pp., 8vo. London, 1903. *The Council.*
- *Royal Institute of British Architects.* The Kalendar, 1903-  
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- *Rural Housing and Sanitation Association.* First Annual  
Report, with Subscription Lists and Balance Sheets to June 30th,  
1903. 20 pp., 8vo. London, 1903. *The Association.*
- *University College (University of London).* Calendar, Session  
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183 pp., 8vo. London.
- *Royal Institution of Gt. Britain.* Proceedings, Vol. XVII.,  
Part I. List of Members, Officers, and Professors, 1903. 230 pp.,  
8vo. London, 1903.
- *Institution of Mechanical Engineers.* Proceedings, July,  
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- Newcastle-on-Tyne.** *North of England Institute of Mining and Me-  
chanical Engineers.* Transactions: Vol. LI., Part VI. 118 pp.,  
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- *Verslag van de Gewone Vergaderingen der Wis-en Natuurkundige afdeeling van 31 Mei, 1902, tot 29 November, 1902, Deel XI.* 826 pp., 4to. Amsterdam, 1902. *The Academy.*
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- Allan, F. J., D.P.H.** Aids to Sanitary Science. (Second Edition.) Revised and Edited by Reginald A. Farrar, M.A., M.D.Oxon., D.P.H.Camb. 257 pp., 8vo. London, 1903. Price 4/6 nett. *Baillière, Tindall & Cox (Publishers).*
- Allen, John P.** Practical Building Construction. 506 pp., 8vo. London, 1903. Price 7/6 nett. *Crosby, Lockwood & Son (Publishers).*
- Andrewes, F. W., M.A., M.D., D.P.H.** Lessons in Disinfection and Sterilisation. 222 pp. London, 1903. Price 3/-. *J. & A. Churchill (Publishers).*
- Anson, F. H., and Shenton, H. C. H.** The Purification of Sewage and Brewery Refuse. 16 pp., 8vo. Epping, 1903. *H. C. H. Shenton.*
- Berlin.** Sonderabdruck aus Arbeiten aus dem Kaiserlichen Gesundheitsamte. Verlag von Julius Springer in Berlin. 135 pp., 8vo.
- Ueber das Verhalten von Borsäure, schwefliger Säure und künstlichen Farbstoffen in Dauerwurst. Von Dr. Ed. Polenske. 5 pp., 8vo.
- Sammlungen von Gutachten über Flussverunreinigung (Fortsetzung):—XIII. Ergänzungs-Gutachten, betreffend die Verunreinigung der Innerste. Erstattet am 20. Februar, 1885. XII. Gutachten, betreffend die Verunreinigung von Quellen im Innerstethale und der Innerste. Erstattet am 3. März, 1894. Dr. Ohlmüller. 24 pp., 8vo.
- Ueber die desinfizierende Wirkung der Alkoholdämpfe. Von Dr. Seige. 8 pp., 8vo.
- Ueber die Wirkungen der Borsäure und des Borax auf den thierischen und menschlichen Körper, mit besonderer Berücksichtigung ihrer Verwendung zum Konserviren von Nahrungsmitteln. Von Dr. E. Rost. 69 pp., 8vo.
- Ueber die quantitative Untersuchung des Ablaufs der Borsäureausscheidung aus dem menschlichen Körper. Von Dr. G. Sonntag. 15 pp., 8vo.
- Ueber den Einfluss des Borax auf den Stoffwechsel des Menschen. Von Dr. phil. et med. R. O. Neumann. 9 pp., 8vo.
- Zur Desinfektion tuberkulösen Auswurfs. Von Oberarzt Dr. Bofinger. 24 pp., 8vo. *Dr. Köhler.*
- Blyth, A. Wynter, M.R.C.S., F.I.C., F.C.S., and Blyth, M. Wynter, B.A., B.Sc., F.I.C., F.C.S.** Foods: Their Composition and Analysis. (Fifth Edition.) 616 pp., 8vo. London, 1903. Price 21/-. *Chas. Griffin & Co., Ltd. (Publishers).*

- Board of Agriculture.** Agricultural Returns of Great Britain, 1903. (Produce of Crops.) *The Board.*
- Bombay Improvement Trust.** Administration Report for the year ending 31st March, 1903. 30 pp. (Plates), fcp. Bombay, 1903. *The Hon. Mr. S. Rebsch.*
- Bruxelles. Ville de.** Rapport annuel: Hygiène, Démographie, Service de Santé, Statistique médicale. Année 1902. 113 pp., 8vo. Bruxelles, 1903.
- *L'Etat actuel de L'Electroculture.* 24 pp., 8vo. Paris, 1903.
- Buchan, D. W.** The House Healthful: Vital points for proprietors, house agents, and householders. 20 pp., 8vo. Glasgow, 1903. *Jack & Garrick (Publishers).*
- Butler, D. B., Assoc. M.Inst.C.E., F.C.S.** Certain vexatious and fallacious Cement Tests now in vogue. 28 pp., 8vo. London, 1903. *The Author.*
- Clarke, J. Jackson, M.B.Lond.** Protozoa and Disease. Part I. 175 pp., 8vo. London, 1903. *Baillière, Tindall & Cox (Publishers).*
- Connell, Isaac, S.S.C.** Law Affecting Building Operations and Architects and Builders' Contracts. 203 pp., 8vo. Edinburgh, 1903. *W. Green & Sons (Publishers).*
- Cooper, C. H., M.I.C.E., A.R.C.Sc.I.** Presidential Address to the Association of Lower Thames Valley Surveyors, October 17th, 1903. 8 pp., 8vo. London, 1903. *The Author.*
- Dibdin, W. J., F.I.C., F.C.S.** The Purification of Sewage and Water. (Third Edition.) 257 pp., 8vo. London, 1903. Price 21/- nett. *The Sanitary Publishing Co., Ltd. (Publishers).*
- Duckworth, Lawrence.** The Consumer's Handbook of the Law relating to Gas, Water, and Electric Lighting. 102 pp., 8vo. London, 1903. Price 1/6 nett. *Effingham Wilson (Publisher).*
- Factories and Workshops.** Annual Report of the Chief Inspector of Workshops and Factories for the year 1902. Part II.—Tables. 55 pp., fcap. London, 1903. *A. Whitelegge, C.B., M.D.*
- Felix, Dr. S.** Istoria Sgieniei. 151 pp., 4to. Bucuresci, 1903. ——— Sgienea Laptelui. 68 pp., 4to. Bucuresci, 1903. *The Author.*
- Ferguson, Bruce R., M.A., M.D., B.C.** Aids to the Mathematics of Hygiene. Second Edition. 96 pp., 8vo. London, 1903. Price 2s. 6d. *Baillière, Tindall, and Cox (Publishers).*
- Geological Survey.** Memoirs of Summary of Progress of the Geological Survey of the United Kingdom and Museum of Practical Geology for 1902. 240 pp., 8vo. London, 1903. *Geological Survey.*
- Gréhan, Prof. N.** Recherches analytiques faites dans un atelier de repassage mécanique. 31 pp., 4to. *La Science au XX<sup>e</sup> Siècle,* 15th Sept., 1903. *The Author.*
- Greenwich Royal Observatory.** Results of the Magnetical and Meteorological Observations made at, in the year 1900, under the Direction of W. H. M. Christie, C.B., M.A., F.R.S., Astronomer-Royal. 177 pp., 4to. London, 1902. *The Astronomer-Royal.*

- Hillier, Alfred, M.D., C.M., B.A.** The Prevention of Consumption. 226 pp., 8vo. London, 1903. Price 5s. nett.  
*Longmans, Green, & Co. (Publishers).*
- James, C. C., M.Inst.C.E.** Oriental Drainage: a guide to the collection, removal, and disposal of sewage in eastern cities, with a glossary of sanitary and engineering terms. 250 pp., 8vo. Bombay, 1902. *The Author.*
- Local Government Board.** Dr. Darra Mair's report upon an outbreak of throat illness in Lincoln. 28 pp., fcap. London, 1903. *W. H. Power, C.B., F.R.S.*
- Dr. H. Timbrell Bulstrode's Report upon the Water Supply of the Urban District of Bridgend, Glamorganshire, and upon the relation thereto of the prevalence of Enteric Fever. 27 pp., fcp. London, 1903.
- Memorandum by Dr. Reginald Farrar on Illness resembling Epidemic Cerebro-spinal Meningitis in certain localities of the Ellesmere Rural and Oswestry Urban Districts, Shropshire. 6 pp., fcp. London, 1903. *W. H. Power, C.B., F.R.S.*
- Dr. Reece's Report on the Sanitary Condition and Administration of the Spennymoor Urban District. 39 pp., fcp. London, 1903. *W. H. Power, C.B., F.R.S.*
- Martel, E. A.** Note sur La Nécessité et les Moyens de protéger les Grandes Sources des Terrains Calcaires de France. 8 pp., 8vo. Bruxelles, 1902. *Wm. Whitaker, B.A., F.R.S.*
- McNally, Surgeon-Major C. J., M.D., D.P.H.(Camb.)** The Elements of Sanitary Science: a hand-book for district, municipal, local medical and sanitary officers, members of local boards and municipal councils, and others in India. Third edition, revised and partly re-written by Capt. J. W. Cornwall, M.A., M.D. 269 pp., 8vo. Madras, 1903. *Capt. J. W. Cornwall, M.A., M.D.*

#### MEDICAL OFFICERS OF HEALTH AND OTHER SANITARY REPORTS.

- Aberdeen, Sept., 1903** .. *Matthew Hay, M.D.*  
 „ Oct., Nov., 1903 .. *Matthew Hay, M.D., M.O.H.*
- Ashwell, 1902** .. .. *Bushell Anningson, M.D., M.A.*
- Cambridge, 1902** .. .. *Bushell Anningson, M.D., M.A.*
- Chesterton R.D.C., 1902** .. *Bushell Anningson, M.D., M.A.*  
 „ U.D.C., 1902 .. .. *Bushell Anningson, M.D., M.A.*
- Ely, 1902** .. .. *Bushell Anningson, M.D., M.A.*
- Glamorgan, 1902** .. .. *W. Williams, M.A., M.D., D.P.H.Oxon*
- Lancaster, 1902** .. .. *Ed. Sergeant, M.O.H.*
- London (City of), Five weeks**  
 ending Saturday, Oct. 17th. *W. Collingridge, M.A., M.D.*  
 ——— (City of), Four weeks  
 ending Nov. 14th, 1902 .. *W. Collingridge, M.A., M.D.*

<b>Notts</b> , 1903 .. ..	<i>H. Handford, M.D., F.R.C.P.</i>
<b>Royston</b> , 1902 .. ..	<i>Bushell Anningson, M.D., M.A.</i>
<b>Saint Ives</b> , 1902 .. ..	<i>Bushell Anningson, M.D., M.A.</i>
<b>Staffordshire C.C.</b> , 1902 .. ..	<i>Geo. Reid, M.D., D.P.H.</i>
<b>Swavesey</b> , 1902 .. ..	<i>Bushell Anningson, M.D., M.A.</i>
<b>Wandsworth</b> , 1902 .. ..	<i>The Town Clerk.</i>
<b>West Riding</b> , 1902 .. ..	<i>James R. Kaye, M.D., C.M., D.P.H.</i>

**Michigan.** Proceedings and Addresses of the Sixth General Conference of the Health Officials in Michigan, Ann Arbor, Michigan, January 15 and 16, 1903. 106 pp., 8vo. Michigan, 1903.

*The State Board of Health.*

**Middleton, R.E., M.Inst.C.E.** Water Supply: A Student's Handbook on the Conditions Governing the Selection of Sources and the Distribution of Water. 165 pp., 8vo. London, 1903. Price 8/6 nett.

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**Middleton, G. A. T., A.R.I.B.A.** The Drainage of Town and Country Houses: a practical account of modern sanitary arrangements and fittings. 142 pp., 8vo. London, 1903. Price 4s. 6d.

*B. T. Batsford (Publisher).*

**Newman, G., M.D., M.O.H.** A Special Report on the Milk Supply of Finsbury, 1903. 75 pp., 8vo. London, 1903. *The Author.*

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**New South Wales.** (1) Manual for the information and guidance of local authorities, and of dairymen and milkvendors registered in town and country districts under the "Dairies Supervision Act, 1901." (2) Memorandum on cess-pits and pail-closets. 23 pp., 8vo. Sydney.

— Suggestions to householders for the prevention of diphtheria, of the law on infectious diseases, and on isolation and disinfection. 29 pp., 8vo. Sydney.

— Suggestions to householders for the prevention of scarlet fever (or scarlatina), on domestic isolation and disinfection, and on the law on infectious diseases. 30 pp., 8vo. Sydney.

— Suggestions to householders for the prevention of typhoid fever, on domestic isolation and disinfection, and on the law on infectious diseases. 32 pp., 8vo. Sydney.

— An Act to consolidate the enactments relating to the slaughtering of cattle, the destruction of animals dying of disease, and diseased animals and meat. 15 pp., 4to. Sydney.

— An Act to consolidate the enactments relating to the carrying on of noxious trades. 6 pp., 4to. Sydney.

— An Act to consolidate enactments regulating the production, manufacture, and distribution of milk, cream, butter, and cheese. 7 pp., 4to. Sydney.

— An Act to consolidate the Acts relating to public health and the prevention of the spread of disease. 35 pp., 4to. Sydney.

- New South Wales.** An Act to consolidate the laws relating to the prevention of certain nuisances in municipalities. 11 pp., fcap. Sydney.
- A Proclamation relating to scarlet fever, diphtheria and membranous croup, and typhoid fever. 7 pp., fcap. Sydney.  
*P. E. Getting.*
- Ottawa.** *Inland Revenue Department.* Bulletin No. 88, Paris green, 1902-3; Bulletin No. 89, Flavouring extracts. 27 pp., 8vo. Ottawa, 1903.  
*Thomas Macfarlane.*
- Parsons, James.** Housing by Voluntary Enterprise. 114 pp., 8vo. London, 1903.  
*P. S. King & Son (Publishers).*
- Poore, George V., M.D., F.R.C.P.** Essays on Rural Hygiene. (Third Edition.) 419 pp., 8vo. London, 1903. Price 6/6.  
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- Public Works.** Vol. I., July-October, 1903. 376 pp., 4to. London, 1903.  
*Editor.*
- Punjab.** Report of the Sanitary Administration of the Punjab and Proceedings of the Sanitary Board for the year 1902, by Lieut.-Colonel C. J. Bamber, I.M.S., D.P.H.Camb. 60 pp., fcp. Lahore, 1903.  
*The Author.*
- Notes on Vaccination in the Punjab for the year 1902-1903. 20 pp., fcp. Lahore, 1903.  
*Lieut.-Colonel C. J. Bamber, I.M.S., D.P.H.Camb.*
- Queensland.** Report of the Commissioner of Public Health. 14 pp., fcap. Brisbane, 1903.  
*B. Burnett Ham, M.D., D.P.H.*
- Rankin, E. G., A.M., M.D.** Observations on the treatment of pulmonary tuberculosis, with a report of the Tuberculosis Infirmary of the Metropolitan Hospital. 7 pp., 8vo. Boston, 1903.  
*The Author.*
- Rideal, Samuel, D.Sc.Lond.** Disinfection and the Preservation of Food, together with an account of the Chemical Substances used as Antiseptics and Preservatives. 484 pp., 8vo. London, 1903. Price 12/6.  
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- Robinson, H., Prof., M.Inst.C.E.** The Storage of Flood Water. 7 pp., 8vo. London, 1903.  
*The Author.*
- Silk, A. C., M.Inst.C.E., F.S.I.** A sewage disposal experiment in Calcutta. Second Edition. 27 pp., 8vo. Calcutta, 1903.  
*The Author.*
- Smee, A. H.** The death-rate from typhoid fever per million living for the decennial period 1881-90, in relation to the geological formation of the Home Counties, according to the registration districts. 6 pp., fcap. London, 1903.  
*W. Whitaker, F.R.S.*
- Stephens, J. E. R.** Digest of Highway Cases, together with all the Principal Statutes relating to Highways, Bridges, and Locomotives. 650 pp., 8vo. London, 1903. Price 21/- nett.  
*The Sanitary Publishing Co., Ltd. (Publishers).*
- Stroud R.D.C.** By-Laws with respect to Nuisances, New Buildings, and certain matters in connection with buildings, and regulations with respect to Dairies, Cowsheds, and Milkshops. 27 pp., 8vo. Stroud, 1903.

- Switzerland.** Mariages, Naissances et Décès en Suisse de 1871 à 1890. Troisième partie, deuxième section: les causes de décès. 163 pp., 4to. Berne, 1903. *Bureau de Statistique.*
- Sydney.** Report of the Board of Health on a Second Outbreak of Plague at Sydney, 1902. 80 pp., fcp. Sydney, 1903. *J. Ashburton Thompson, M.D., D.P.H.*
- Thomas, J. W., F.I.C., F.C.S.** The Ventilation, Heating, and Management of Churches and Public Buildings. 136 pp., 8vo. London, 1903. Price 2/6. *Longmans, Green & Co. (Publishers).*
- Toronto.** Annual report of the City Engineer. 130 pp., 8vo. Toronto, 1903. *Chas. H. Rust, M.Can.Soc.*
- Townsend, C. F., F.C.S.** Heating and Ventilation of Houses. 36 pp., 8vo. London, 1903. Price 6d. nett. *Dawburn & Ward, Ltd. (Publishers).*
- West Riding Rivers Board.** Report upon Brewing. 7 pp., 8vo. Wakefield, 1903. *H. Maclean Wilson.*
- Wilson, H. Maclean.** Report upon Waite's Apparatus for the Purification of Polluted Water. 4 pp. (Plates), 8vo. Wakefield, 1903. *The Author.*

In addition to the books presented to the Library, the following works connected with Sanitary Science have been published during the quarter :—

- Hewlett, R. T., M.R.C.P., D.P.H.Lond.** Serum Therapy, Bacterial Therapeutics and Vaccines. London: J. & A. Churchill.
- Curtis, H. J., M.D., B.S., F.R.C.S.** The Essentials of Practical Bacteriology: An elementary laboratory book for students and practitioners. London: Green & Co.
- Dhingra, M. L., M.D., C.M.Edin.** Elementary Bacteriology. London: Longmans, Green & Co.
- Ransome, Arthur M.D., M.A.Cantab., F.R.C.P.Lond.** The Principles of "Open Air" Treatment of Phthisis and of Sanatorium Construction. London: Smith, Elder & Co.
- Zapffe, Fred. C., M.D.** Bacteriology: a manual for students and practitioners. London: Henry Kimpton.
- Coux, C. de la.** The Industrial Uses of Water. London: Scott, Greenwood & Co.
- Pollock, Sir Montague, Bart.** Light and Water. London: G. Bell & Sons.
- Swithinbank, H., and Newman, George, M.D., F.R.S.E., D.P.H.,** Bacteriology of Milk. London: John Murray.
- Savignac, Dr.** L'Ordonnance du Tuberculeaux. Paris: J. B. Baillière et fils.

## EXHIBITS ADDED TO THE MUSEUM.

SEPTEMBER TO DECEMBER, 1903.

---

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<b>Poisoning.</b>	<i>Dr. Buchanan.</i>

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## GENERAL NOTES.

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TROPICAL HYGIENE.—The following communication has been received from the Colonial Office in reference to the Teaching of Hygiene in Tropical Colonies, with special reference to precautionary and preventive measures in regard to Tropical Diseases.

DOWNING STREET,

*21st October, 1903.*

SIR,

I am desired by Mr. Secretary Lyttelton to acknowledge the receipt of your letter of the 10th ultimo, and to transmit to you two copies of the circular on the subject of the teaching of tropical hygiene which has been sent to the Governors of tropical and malarious Colonies. Copies have also been sent to the chief Missionary Societies with a request for their co-operation so far as practicable.

2. The papers which you were kind enough to send as likely to be of interest to Sir William MacGregor have been forwarded to him accordingly.

I am, Sir,

Your obedient servant,

(Sd.) R. L. ANTROBUS.

The Director of The Sanitary Institute.

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DOWNING STREET,

*7th October, 1903.*

SIR,

I have the honour to inform you that my attention has been drawn by the Sanitary Institute to the difficulty of making effective use of recent discoveries in tropical hygiene without the co-operation of the people most likely to benefit by them, and to the consequent desirability of spreading the elements of knowledge in such matters through schools in tropical Colonies.

Valuable work in this direction has already been done in the Colony of Lagos, and I enclose for your information extracts from a despatch addressed to me by Sir W. MacGregor, describing the methods by which instruction in sanitation is given in that Colony. I shall be glad to learn whether any attempt is being made on similar lines to teach the rudiments of hygiene in the Colony under your Government, or whether you consider that either teachers or school children can usefully be given such instructions.

It seems to me that skilfully arranged lessons on the natural history of the causes of the most important tropical diseases might be made very attractive to children, and that such teaching would be of practical utility in the future. If a demand for such lessons were to become apparent, it would be possible to arrange for the preparation of suitable handbooks and primers on the subject.

I have the honour to be, Sir,

Your most obedient humble Servant,

J. CHAMBERLAIN.

The Officer Administering  
the Government of

*Enclosure to Circular, dated 7th October, 1903.*

Extract from Despatch from Governor Sir WILLIAM MACGREGOR to  
Mr. CHAMBERLAIN, dated 9th July, 1903, No. 157.

In reply to Lord Onslow's despatch "General" of the 30th January, I have the honour to acquaint you briefly with the further work that has been done in this Colony in regard to Sanitation, and to offer a few remarks on the enclosure to Lord Onslow's despatch from the Sanitary Institute.

It would occupy too much of your time to detail all that has been done and is now doing here in connection with this subject. It is really being dealt with at every point.

I enclose a Special Report on the teaching of Sanitation in Schools. The first step that had to be taken in that direction was to educate the School Board, which is composed of certain officials and representatives of the different denominational schools that receive subsidies from the Treasury. It is not always an easy matter to get over this first preliminary stage, but it is highly necessary that the school authorities, whoever they may be, should be won over from the beginning. The next proceeding was the preparation of a scheme to carry out my original idea of giving school grants on the basis of results in Reading, Writing, Arithmetic, and Sanitation, the last being put on an equal footing with the other three. An outline of this scheme will be found in the paper enclosed, headed "Teaching of Sanitation in Schools." A preliminary and preparatory course of Lectures on Hygiene was delivered in Lagos by Dr. Best; a copy of his lectures is enclosed herewith. Then followed, a few months later, a more elaborate course, of which I enclose a copy, by the Principal Medical Officer, Dr. Strachan, C.M.G. These courses were well attended by the teachers of the subsidised schools, hospital nurses, and attendants, and by the public, audiences varying from about a

hundred and fifty to two hundred and fifty. Then followed examinations. Teachers that obtained First and Second Class Certificates were deemed fit to teach Sanitation in the schools. Twenty-eight teachers received Certificates at the first and second examinations. Ninety-eight scholars were presented for the first examination. They were between 13 and 20 years of age. In May last, 276 scholars entered for examination in Sanitation, and of these 170 were successful. The nature of the examination will be learned from the enclosed "Syllabus for the guidance of Students and Examiners."

It need hardly be pointed out that much depends on how teaching is carried on in detail. All lectures are illustrated by lantern slides, and by such practical demonstrations as occur to the ingenuity of the lecturer or teacher. For example, let me mention the method adopted this year to teach the development of the mosquito. I found last year that notwithstanding all that has been done by such great teachers as Celli, Grassi, &c., in Italy, I could not convince the railway employés in the Agro Romano that mosquitoes were hatched out of the black wriggling larvæ I showed them in the water receptacles in their gardens. I saw at once that the way to teach that branch of the subject in schools is to provide each teacher with a given number of larvæ in water in a clear glass bottle, which he produces in his class each day, and makes the scholar count the larvæ and pupæ once daily till all are hatched out into the fully developed insect. I had the teachers assembled and instructed by Dr. Best and Mr. Carr how this was to be done. In a week or two after, one met scholars in any corner in Lagos with a bottle hunting for mosquito larvæ to watch for themselves the wonders of their development. This subject is now better known by the school children of Lagos than by the trained and experienced employés of the Italian Railways.

The Legislature has voted money for special prizes to those scholars that most distinguish themselves in Sanitation at the School Exhibition. Forty-four scholars took part in the competition last year, and the judges considered that they showed sound knowledge of the Elementary Laws of Health.

Education has not been confined to the schools of Lagos. I have myself translated the best papers and reports on Malaria published in German, French, and Italian, and have had them reproduced in the *Government Gazette* and numerous copies distributed.

Dr. Obasa, a native of the country, delivered in Youraba a short course of Lectures at Abeokuta. These have been printed, and I enclose a copy herewith. Considerable interest has been aroused in that town, the authorities of which have appointed, and pay a staff of vaccinators and Sanitary Inspectors.

Lectures have also been delivered by Dr. Rice at Ibadan, of which I enclose a specimen. Those delivered by Dr. Read at Badagry have not been published.

\* \* \* \* \*

It will be noticed that I attach the greatest importance to educating young and old in matters of sanitation. That principle is kept steadily in view in all that is done here. I have omitted all reference to our dispensaries, to the Ladies' League, and many other matters that have already been brought to your notice.

There can be no doubt that sanitation can be successfully taught in primary and secondary schools. Manifestly the course of tuition would be widely different in Essex and Lagos, for example. Here it is sometimes found easier to instruct and interest the scholars of the public schools in such matters than it is to overcome the obstinate ignorance of Europeans whose sanitary education has been delayed till it is too late; but this is only another proof that sanitation should be taught in all public schools to those whose minds are receptive and not warped by prejudice. I therefore respectfully urge that Hygiene should be taught by every teacher in every school, without reference to colour, race, or religion. It would be necessary that a handbook or primer should be prepared for each place to suit its special needs. I trust I may be able to have the Lagos one completed before long. This is a somewhat serious task here, as it has to be printed in Yoruba as well as in English, and I have not yet got the Yoruba type required for this purpose.

\* \* \* \* \*

*Sub-enclosure 1.*

SPECIAL REPORT ON THE TEACHING OF SANITATION IN SCHOOLS.  
1902—1903.

On the 21st of February, 1902, the Board of Education adopted a scheme for the teaching of Sanitation in Schools, which was prepared by the Principal Medical Officer (Honourable Dr. Strachan) and the Inspector of Schools. With this scheme was incorporated the Syllabus of the Lectures on Elementary Hygiene which were delivered to school teachers, hospital nurses, and the public of Lagos by the Principal Medical Officer.

2. With a view to enabling the teachers (male and female) of the assisted schools of the Colony to qualify themselves to teach elementary hygiene, it was arranged that they should present themselves for the examinations for Sanitation Certificates which were based on the subject matter of Dr. Strachan's lectures. Two such examinations have been held, one on the 3rd of January, 1902, by Dr. Strachan, and the other on the 4th of the following July by Dr. Hopkins (Acting P.M.O.). At the first examination seven teachers obtained First Class Certificates and three obtained Certificates of the Second Class out of a number of 22 successful candidates. At the second examination six teachers obtained First Class Certificates and 12 obtained Certificates of the Second Class out of a total number of 27 successful candidates.

3. Having thus secured qualified teachers, some of the schools were enabled to take up the teaching of Sanitation in the month of April, 1902, after the Easter holidays, and others were able to do so in the month of July, 1902, after the half-yearly holidays.

4. The first examination of schools in Sanitation was held in connection with the C.M.S. Grammar School in the month of October, 1902. The number of scholars presented for the examination was 98, and of these 58 were successful. The scholars were between the ages of 13 and 20, and had made about 23 attendances on an average in the Sanitation classes of the school. They were all examined on paper and in the subjects assigned for the First stage of the Scheme approved by the Board of Education. They evinced considerable interest in the study, and, in many cases, the papers sent up attested their intelligent knowledge of the subject as far as it is contained in Dr. Strachan's lectures.

5. It had been proposed that the oral examination of the elementary schools in Sanitation should take place early in the present year, soon after the conclusion of the annual inspection of schools. But, owing to various causes, this examination was not held until the last week of the month of May. Five elementary schools presented 276 scholars, and of these 170 were successful. With the exception of 21 scholars, all those who were sent up from the elementary schools were examined in General Knowledge of Sanitation, as provided in the Scheme; the remaining 21 scholars were examined in Stage I. The examination was oral all throughout, and was conducted through the medium of the Yoruba language. The scholars were between 9 and 15 years of age, and had made attendances ranging between 13 and 40 at the Sanitation classes of their respective schools. In these schools also the children on the whole gave very interesting and intelligent answers to the questions put to them. I consider the results in both classes of schools very important and more than satisfactory for a beginning, and I have no doubt that nearly all the schools in Lagos will send up scholars for the next examination in Sanitation.

6. It should be mentioned that special efforts have been made for the purpose of giving the children experimental lessons on the development of the mosquito in its different stages. A meeting of school teachers was held at the Lagos Hospital on the 9th of March, 1903, at which no less than 44 teachers (male and female) were present, and specimens of the evolution of the mosquito from the egg to the fully developed insect were exhibited by the Resident Medical Officer. On the following day glass bottles containing the larvæ of mosquitos in different stages of development were distributed to the schools, and all school teachers were supplied with special instructions in which they are required to see that each day the children count the numbers of the larvæ that have undergone a further stage of development in the glass bottles, the process being repeated regularly and the larvæ and developed mosquitos being counted daily, with a

view to demonstrate clearly to the children in this practical way that the insect has passed through certain changes of evolution in the interval between two lessons. In this way the children become familiar with the development of the mosquito, and learn to recognise it in all stages from the egg to the fully developed insect.

7. The sum of £20 has been voted by the Legislature for special prizes to school children whether belonging to assisted or private schools who have proved themselves most proficient in the subject of Sanitation. These prizes are to be publicly given in connection with the Annual Competitive Exhibition of School Work. At the last Exhibition held in December, 1902, 44 school children from seven primary and two secondary schools took part in the competition, and the judges reported that the majority of them "shewed sound knowledge of the elementary laws of health."

HENRY CARR,

Inspector of Schools.

Education Office,

Lagos, 1st June, 1903.

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*Sub-enclosure 2.*

TEACHING OF SANITATION IN SCHOOLS.

*First Stage.*

1. Hygiene and the nature and causes of Diseases, as contained under headings A and B of the Syllabus of 17th July, 1901.

*Second Stage.*

2. Air, water, food, dwelling, villages and towns, clothing, habits and customs, recapitulation of all methods of prophylaxis against disease. This stage covering the subjects under headings A, B, C, D, E, F, G, H, I, J of the Syllabus of 17th July, 1901.

3. The examination of pupils in the stages may be conducted orally or in writing.

4. The Board shall for every pass in the case of pupils examined orally in general knowledge of the subjects of the stages, but who are not able to pass in either of the stages, make a grant of two shillings; but only one such grant shall at any time be made in respect of any pupil thus examined.

5. The Board shall, for every pass in each of the stages obtained by a pupil of a primary or secondary school, grant any sum not exceeding four shillings, where the pass shall have been marked as

"fair," and any sum not exceeding five shillings, where the pass shall have been marked as "good."

6. No pupil shall be examined in any stage in which such pupil shall already have passed at any examination held by direction of the Board.

7. One-half of the total grant earned in respect of the teaching of Sanitation at any school shall be paid to the teacher or teachers of the class or classes in which the pupils have been instructed, provided that the teacher is a holder of a first Class Certificate in Sanitation. In case the teacher is a holder of a Second Class Certificate, the proportion of the grant to be paid to him shall be one-fourth. The remaining portion of the grant other than what is paid to teachers shall in all cases be applied to the general purposes of the school at which the pupils are instructed.

8. Only teachers who have obtained Certificates in Sanitation shall be considered competent to teach Sanitation in the schools, and no grant shall be made in respect of proficiency in Sanitation of any class, unless the class is under the instruction of a holder of a Certificate in Sanitation.

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# PARKES MUSEUM NEW BUILDING AND ENDOWMENT FUND.

## PRELIMINARY LIST OF DONATIONS.

### *Amounts already reported :*

					£	s.	d.
Capital allotted	..	..	..	..	8,000	0	0
Vice-Presidents	..	..	..	..	258	0	0
Members of Council	..	..	..	..	95	6	0
Members and others	..	..	..	..	636	12	0
<i>To the Douglas Galton Gallery</i>	..	..	..	..	145	10	0
					<hr/>		
					£9,135	8	0

### *Additional amounts since last Report :*

Mr. C. H. Alderson	..	..	..	..	0	10	6
Mr. J. G. Mills	..	..	..	..	1	1	0
Mr. A. H. Kendall	..	..	..	..	0	10	6
Mr. J. C. Wilson	..	..	..	..	5	5	0
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*British Medical Journal*.—"The author, Mr. H. Lemmoine-Cannon, a professional Associate of the Surveyors' Institution and Associate of the Sanitary Institute, has set out very clearly the numerous sections of the Public Health Act, 1875, as well as of the Public Health Acts Amendment Act, 1890, so far as they affect the inspector of nuisances."

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# JOURNAL OF THE SANITARY INSTITUTE.

**VOL. XXIV.**

**PART IV.**

**JANUARY, 1904.**

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